THIRD ANNUAL REPORT

OF THE

STATE BOARD OF HEALTH

OF

SOUTH CAROLINA

FOR THE

FISCAL YEAR ENDING OCTOBER 31, 1882.

TO THE LEGISLATURE OF SOUTH CAROLINA.

COLUMBIA, S. C.
CHARLES A. CALVO, JR., STATE PRINTER.
1882.

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LETTER OF TRANSMITTAL.

EXECUTIVE CHAMBER,
COLUMBIA, S. C., November 22, 1882.

To the Honorable the Senate and House of Representatives of the State of South Carolina:

I have the honor to transmit herewith the Third Annual Report of the Commissioner of Agriculture of the State of South Carolina.

JOHNSON HAGOOD, Governor.

ANNUAL REPORT.

By Act of the General Assembly, approved December 23d, 1878, the South Carolina Medical Association is the State Board of Health.

To the Executive Committee are delegated the duties of the Board, in the intervals of its meetings.

The Committee consists of seven members, appointed by the Governor on the recommendation of the Association, together with the Attorney General and Comptroller General of the State, who are members *ex officio*.

Executive Committee of the State Board of Health.

B. W. TAYLOR, M. D.....Columbia, S. C.
P. A. WILHITE, M. D.....Anderson, S. C.
J. FORD PRIOLEAU, M. D.....Charleston, S. C.
T. GRANGE SIMONS, M. D.....Charleston, S. C.
H. D. FRASER, M. D.....Charleston, S. C.
F. F. GARY, M. D.....Cokesbury, S. C.
J. R. BRATTON, M. D.....Yorkville, S. C.
LEROY F. YOUMANS, Attorney General, (*ex officio*,).....Columbia, S. C.
GEN. JOHN BRATTON, Comptroller General, (*ex officio*,) Columbia, S. C.

B. W. TAYLOR, M. D., Chairman Executive Committee.
H. D. FRASER, M. D., Secretary.

OFFICE OF STATE BOARD OF HEALTH, Charleston, S. C.

Standing Committees.

On Ordinances and Sanitary Code.—T. G. Simons, M. D., J. R. Bratton, M. D., Attorney General L. F. Youmans.

Medical Topography.—F. F. Gary, M. D., J. R. Bratton, M. D., Comptroller General John Bratton.

Endemic and Epidemic Diseases.—J. Ford Prioleau, M. D., B. W. Taylor, M. D., H. D. Fraser, M. D.

Quarantine.—T. G. Simons, M. D., Attorney General L. F. Youmans, B. W. Taylor, M. D.

Registration of Vital Statistics.—H. D. Fraser, M. D., Comptroller General John Bratton, P. A. Wilhite, M. D.

Finance.—H. D. Fraser, M. D., Comptroller General John Bratton, T. G. Simons, M. D.

Adulteration of Food and Drink.—J. R. Bratton, M. D., T. G. Simons, M. D., F. F. Gary, M. D.

Sale of Drugs and Medicines.—J. Ford Prioleau, M. D., P. A. Wilhite, M. D., B. W. Taylor, M. D.

Sanitary Regulation of Schools.—B. W. Taylor, M. D., F. F. Gary, M. D., P. A. Wilhite, M. D.

Sanitary Condition of State Penal and Charitable Institutions.—P. A. Wilhite, M. D., Attorney General L. F. Youmans, Comptroller General John Bratton.

Members of Sub-Boards of Health.

ABBEVILLE COUNTY.

Abbeville.—Drs. Edwin Parker and E. H. McBride, and T. P. Quarles, Esq.

Cokesbury.—Drs. F. F. Gary and B. C. Hart, and Mr. L. Dawson.

Due West.—Drs. J. L. Miller and E. H. Edwards, and Professor Wm. Hood.

Lowndesville.—Drs. A. J. Speed and O. R. Horton, and Jas. M. Latimer, Jr., Esq.

AIKEN COUNTY.

Aiken.—Drs. W. H. Geddings and T. G. Croft, and J. B. Henderson, Esq.

Langley.—Drs. J. M. Woodward and J. L. Lee, and H. W. Jordan, Esq.

ANDERSON COUNTY.

Anderson.—Drs. W. H. Nardin and M. L. Sharpe, and John E. Breazeale, Esq.

Pendleton.—Drs. Thomas F. Pickens and Paul H. E. Sloan, and T. S. Crayton, Esq.

Williamston.—Drs. B. F. Brown and H. E. Epting, and C. E. Horton, Esq.

BARNWELL COUNTY.

Bamberg.—Drs. L. A. Wright and J. F. Baggot, and J. S. Bamberg, Esq.

Barnwell.—Drs. A. Patterson and J. J. O'Bannon, and A. P. Manville, Esq.

Blackville.—Drs. L. C. Stephens and P. F. Stokes, and L. T. Izlar, Esq.

BEAUFORT COUNTY.

Beaufort.—H. M. Stuart, M. D., Chairman; George Waterhouse, Esq., William A. Lockwood, Esq., A. J. Bamfield, Esq., R. Rutledge, Esq.

Port Royal.—John Rich, Esq., Chairman; J. D. Manett, Esq., George S. Harrison, Esq., J. H. Milton, Esq., J. A. Torrent, Esq.

CHARLESTON COUNTY.

Charleston (City).—John Hanckel, Esq., Chairman; Middleton Michel, M. D., F. Peyre Porcher, M. D., Allard Memminger, M. D., G. E. Manigault, M. D., William Ufferhardt, Esq., William Thayer, Esq., Joseph L. Tobias, Esq., C. P. Aimar, Ph. D., R. M. Marshall, Esq., Paul C. Trenholm, Esq.; H. B. Horlbeck, M. D., Secretary of Board.

Moultrieville.—Drs. Alfred Raoul and ———, and John Commins, Esq.

Mount Pleasant.—Drs. ——— and John G. DuPre, and Frederick Horlbeck, Esq.

Summerville.—Dr. Benj. Rhett and ———, and ———.

CHESTER COUNTY.

Chester.—Drs. ——— and ———.

CHESTERFIELD COUNTY.

Cheraw.—Drs. C. Kollock and J. K. McLean, and H. D. Malloy, Esq.

CLARENDON COUNTY.

Manning.—Drs. S. C. C. Richardson and John J. Ingram, and G. Allen Huggins, Esq.

Summerton.—Drs. B. M. Badger and J. L. Burgess, and P. G. Benbow, Esq.

COLLETON COUNTY.

Walterboro.—Drs. Charles Witsell and W. H. Miller, and John D. Edwards, Esq.

DARLINGTON COUNTY.

Darlington.—Drs. B. C. Norment and W. A. Player, and J. F. Early, Esq.

Florence.—Drs. J. W. King and James Evans, and W. J. Norris, Esq.

EDGEFIELD COUNTY.

Edgefield.—Drs. J. W. Hill and George W. Wise, and W. H. Brunson, Esq.

FAIRFIELD COUNTY.

Winnsboro.—Drs. T. T. Robertson and R. B. Hanahan, and G. H. McMaster, Esq.

GEORGETOWN COUNTY.

Georgetown.—Drs. T. P. Bailey and L. L. Williams, and W. O. Bourke, Esq.

GREENVILLE COUNTY.

Greenville.—Drs. J. H. Dorrah and J. H. Maxwell, and Thomas C. Gower, Esq.

HAMPTON COUNTY.

HORRY COUNTY.

Conwayboro.—Drs. Evan Norton and J. H. Grant, and Thomas W. Beaty, Esq.

KERSHAW COUNTY.

Camden.—Drs. A. A. Moore and ———, and ———.

LANCASTER COUNTY.

Lancaster.—Drs. J. H. Foster and J. F. Mackey, and N. B. Chafee, Esq.

LAURENS COUNTY.

Laurensville.—Drs. Irby Dunklin and Jno. A. Barksdale, and C. M. Miller, Esq.

LEXINGTON COUNTY.

Lexington.—Drs. C. E. Leaphart and J. L. Shuler, and Walter Drafts, Esq.

MARION COUNTY.

Marion.—Drs. J. L. Mullins and D. S. Price, and W. B. McMillan, Esq.

MARLBORO COUNTY.

Bennettsville.—Drs. J. F. Jennings and J. L. Jordan, and P. L. Breeden, Esq.

NEWBERRY COUNTY.

Newberry.—Drs. James McIntosh and O. B. Mayer, Jr., and R. McCaughrin, Esq.

Prosperity.—Drs. A. F. Langford and W. T. McFall, and W. A. Moseley, Esq.

OCONEE COUNTY.

Walhalla.—Drs. L. B. Johnson and B. S. James, and C. L. Reid, Esq.

ORANGEBURG COUNTY.

Orangeburg.—Drs. A. S. Hydrick and M. G. Salley, and J. J. Street, Esq.

PICKENS COUNTY.

Central.—Drs. S. W. Clayton and J. M. Folger, and John R. Williams, Esq.

RICHLAND COUNTY.

Columbia.—Colonel John T. Sloan, Chairman; L. K. Philpot, M. D., E. H. Heinitsh, M. D., R. Tozer, Esq., J. C. Dial, Esq., E. W. Seibels, Esq., N. W. Trump, Esq., George K. Wright, Esq., George W. Lever, Esq.,

Pressley Brown, Esq., ——— ———, ——— ———; Richard Jones, City Clerk, Secretary.

SPARTANBURG COUNTY.

Spartanburg.—Drs. W. T. Russel and T. E. Nott, and J. J. Boyd, Esq.

SUMTER COUNTY.

Sumter.—Drs. John S. Hughson and J. C. Haynesworth, and Colonel J. H. Earle.

UNION COUNTY.

Union.—Drs. Henry F. Beaty and Theo. Munro, and M. F. Farr, Esq.

WILLIAMSBURG COUNTY.

Kingstree.—Drs. ———, ———, ——— and ———.

YORK COUNTY.

Yorkville.—Drs. J. R. Bratton and A. J. Barron, and Colonel Wm. McCorkle.

Rock Hill.—Drs. T. A. Crawford and ———, and Captain J. M. Ivy.

Meteorological Stations and Observers.

Aiken.—Dr. W. H. Geddings, Observer.

Darlington.—Dr. M. S. Iseman, Observer.

Newberry.—Professor B. W. Bittle, Observer.

Spartanburg.—Professor D. A. DuPre, Observer.

Report of the Chairman of the Executive Committee of the State Board of Health.

COLUMBIA, S. C., October 31, 1882.

To the Honorable the Senate and House of Representatives of the State of South Carolina:

The State Board of Health has the honor to transmit herewith its Third Annual Report, embracing the reports of the Chairmen of Standing Committees and papers upon various sanitary subjects.

SAPELO STATION.

We call especial attention to the necessity of your honorable body petitioning Congress to have continued Sapelo Quarantine Station, as being essential to our safety against infectious and contagious diseases.

SANITARY CODE AND REGISTRATION OF VITAL STATISTICS.

We will again bring before you drafts of two bills,—the one to establish a Sanitary Code for the State and the other for the Registration of the Vital Statistics of the State,—and hope they have been so modified as to meet your approval.

PREVAILING DISEASES.

During the year the people of the State have been blessed with comparatively good health, although diphtheria and a grave type of bilious fever have appeared in some localities.

From various sources we have been led to believe that our annual reports have supplied a want heretofore existing in the State. The favorable criticisms in medical journals and the numerous applications for copies of it, both within and without the State, have been most gratifying to us.

We shall continue to instruct the people in preventive medicine, and shall again ask the continuance of your pecuniary aid in so doing.

All of which is respectfully submitted.

B. W. TAYLOR, M. D.,
Chairman Executive Committee State Board of Health.

Report of the Secretary of the Executive Committee of the State Board of Health at the Regular Quarterly Meeting October 5th, 1882.

In reviewing the work of the Executive Committee during the past fiscal year, it will be seen that, in accordance with law, four regular quarterly meetings have been held, and that no special meetings have been called—the latter a fact which of itself argues an improvement in the working of the machinery of the Board, whilst the absence of the necessity for unusual deliberation on the part of the Executive Committee must be taken as evidence that the State has enjoyed immunity from widespread epidemics or threats of their invasion.

The prospect of a visitation from smallpox, which naturally created so much alarm and anxiety throughout the State the previous year and the early part of the present, happily subsided without any realization of the fears relative thereto; whilst our sea coast has been spared the ravages of yellow fever,—the dire visitant which has so often prostrated the energies and hopes of the people and disappointed the commercial prospects of its cities. As regards diseases of more local character and endemicity, the reports of the local and sub-Boards should present definite information. Some of these will be found recorded elsewhere in the general report, whilst it must be regretted that the sub-Boards have not responded more generally to the call issued by the Executive Committee for their reports, or to the legal obligation imposed upon them by the Act creating the State Board of Health, (see Sec. 7 of Act,) as the importance of such information can scarcely be over estimated in the preparation of a general report of the sanitary condition of the State.

Replies to the circular issued by the Secretary have been received from the following local and sub-Boards of Health, namely: Charleston, Beaufort, Port Royal, Georgetown, Moultrieville, Walterboro, Barnwell C. H., Blackville, Aiken, Union, Winnsboro, Cheraw, Due West, Yorkville, Camden, Walhalla and Central, being only seventeen out of the forty-six now organized in the State.

METEOROLOGY.

In accordance with a resolution of the Executive Committee, I have purchased for the Board self-registering apparatus for the Robinson's anemometers, now in use by the observers at the four stations. These were deemed necessary for exactly recording the observations. Our armamentarium is now complete, and with such perfect instruments the

results should be most satisfactory. It is to be regretted, however, that from various causes there have been irregularities and interruptions in the transmission of the monthly summaries during the past year, marring materially the usefulness and value of the observations as statistical records.

I am sorry to announce to the Committee that I have recently received a communication from Professor B. W. Bittle of the Newberry College, one of our most exact and esteemed observers, stating that, in consequence of new duties connected with his position in the College devolving upon him and claiming all his attention and time, he would be unable any longer to make the observations at that station, and tendering his resignation as one of our observers. It will be difficult to fill his place.

During the Winter, as the threat of an invasion of smallpox still prevailed, it was deemed advisable by the Board to issue a circular setting forth the necessity for continued watchfulness, and detailing the necessary precautions to be taken and measures to be adopted in case of an outbreak.

The circular prepared by the Committee on Endemic and Epidemic Diseases was distributed generally through the sub-Boards, and vaccine virus in limited quantity, with instructions for vaccinating, was sent to such persons as applied for it.

The Bill "To Regulate the Licensing of Physicians and Surgeons," presented by this Board for enactment by the Legislature at its November meeting, happily found favor with that body and is now a law working practically, and it is hoped will redound to the benefit of the State and of the medical profession.

The two other Bills—one for the establishment of a sanitary code for the State, and the other providing for the registration of the vital statistics of the State,—were withdrawn by those who had them in charge, as it became apparent that some of their provisions would ensure their defeat. They have been referred back to the Committees from which they emanated for amendment and alteration, and will be presented in their new form at the approaching meeting of the Legislature.

The draft of the Bill entitled "A Bill for Establishing Boards of Health Throughout the State and for the Better Preservation of the Public Health," presented by the Standing Committee on Ordinances and the Sanitary Code for enactment by the Legislature, has, in accordance with the resolution adopted at the last meeting of the Executive Committee, been submitted to all of the local and sub-Boards for their consideration and approval. Most of those which have replied to my circular letter have expressed their approval of the entire Bill, whilst

some suggest alterations which will appear in their answers to be presented to the Committee.

I have endeavored, by means of circulars sent on two occasions to the Clerks of Court in the various Counties, to obtain from them lists of the physicians who have registered at their offices. Some of them have failed; as yet, to furnish the desired information, in consequence of which I have been prevented from carrying out the instruction of the Committee in making a complete registry of the licensed physicians and surgeons of the State. It is hoped, however, that it may be completed in time for its publication in the general report to the Legislature.

The list of the licensed druggists and pharmaceutists and that of the dentists is complete.

EXCHANGES, PAPERS AND CIRCULARS RECEIVED AT THE OFFICE OF THE SECRETARY OF THE STATE BOARD OF HEALTH.

"Vaccination." Paper issued by the North Carolina Board of Health.

"Water Supply" and its Relations to Health and Diseases. By W. H. Dickinson, M. D., of the State Board of Health of Iowa.

Sixth Annual Report of the Board of Health to the Common Council of the City of Utica, N. Y.

Annual Report of the Health Officer of the City of Burlington, Vt., to the City Council.

Fifth Annual Report of the Board of Health of the State of New Jersey, 1881.

"Medical Register."

Report of the State Board of Health of New York on the methods of sewerage for cities and large villages in the State of New York, (No. 42.)

Memorandum of Rules to be Adopted to Prevent the Spreading of Contagious Diseases in Schools, (No. 41.)

Prevention of Smallpox; Duties of the Local Authorities, Health Officers and Others, (No. 38.)

Rules to be Observed in the Public Registration of Deaths, Births and Marriages, and with Regulation of Burials.

Third Annual Report of the State Board of Health of Illinois, with the Official Register of Physicians and Midwives.

Resolution adopted by the State Board of Health of Michigan for the more certain prevention of contagious diseases into the United States.

Fourth Annual Report of the Board of Health of the city of Augusta, Georgia.

Prevention and Control of Smallpox. By Eugene Foster, President of the Board of Health of Augusta, Ga.

Two copies Report National Board of Health for 1879.

Second Annual Report of the Commissioner of Agriculture of the State of South Carolina.

First Biennial Report of the State Board of Health of the State of Iowa.

Rules and Regulations of the Indiana State Board of Health, 1882, and a paper entitled "The Essentials of a Law to Regulate the Practice of Medicine in Indiana." By Thad. M. Stevens, M. D.

Report of the South Carolina Department of Agriculture. Circular No. 24.

Paper entitled "The Worcester Sewage and the Blackstone River," from the Board of Health, Charity and Lunacy of Massachusetts.

Report of the Board of Health of Reading, Pa., for 1881.

Fourth Biennial Report of the State Board of Health of Maryland, January, 1882.

Circulars of Information of the Bureau of Education. No. 6, 1881: Effects of Student Life upon the Eyesight. By A. W. Calhoun, M. D., Professor of Diseases of the Eye and Ear and Throat in the Atlanta Medical College.

Circular of Information of the Bureau of Education. No. 1, 1882: The Inception, Organization and Management of Training Schools for Nurses.

The Separate System of Sewerage. By George E. Waring.

Report of the Health Officer of the District of Columbia, 1881. By Smith Townshend, M. D., Health Officer.

Ninth and Tenth Registration Reports of Michigan.

Paper on contagious diseases, scarlet fever, diphtheria, smallpox, typhus fever, &c., and general rules for their restriction. Issued by the Michigan State Board of Health.

Also paper by same on the restriction and prevention of scarlet fever and smallpox.

Work of Health Officers. From Michigan State Board of Health.

Reports of the Methods and Apparatus for Testing Inflammable Oils. By Arthur H. Elliott. Reprint from the Annual Report of Board of Health of New York.

Report of the Committee appointed by the American Public Health Association on the prevention of venereal diseases, presented at the eighth annual meeting of the Association in New Orleans in December, 1880, by Albert S. Gihon, M. D., Chairman.

Paper on "The Prevention of Venereal Diseases by Legislation." By Albert L. Gihon, M. D., Medical Director United States Navy. Read before the New York Medico-Legal Society April 5, 1882.

Fourth Annual Report of the State Board of Health of Kentucky, 1882.

Eighth Annual Report of the State Board of Health of Minnesota, January, 1881.

Sixth Annual Report of the State Board of Health of Wisconsin.

Fourth Annual Report of the State Board of Health of Rhode Island.

The Relations of Schools to Diphtheria and to Similar Diseases. By Henry B. Baker, M. D., Secretary Michigan State Board of Health.

General Sanitation. Its Importance to the Public Welfare and a Plea for Better Methods. By Henry B. Baker, M. D., Secretary, &c.

The Systematic Study of the Causes of Sickness and Deaths. By Henry B. Baker, M. D., Secretary, &c.

All of which is respectfully submitted.

H. D. FRASER, M. D.,
Secretary State Board of Health.

By-Laws of the Executive Committee of the State Board of Health.

1. The officers of the State Board of Health shall consist of a Chairman, Vice-Chairman, and Secretary.

2. The officers shall be elected by ballot at the first quarterly meeting in each year.

3. The duties of the Chairman shall be to preside at all meetings; call extra meetings, when necessary, through the Secretary; draw all appropriations from the Comptroller General and deposit the same in some bank in Charleston or Columbia, to the credit of the State Board of Health. He shall also make an annual report of the Executive Committee of the State Board of Health to the Legislature.

4. The Secretary shall keep a record of the transactions of the Board; shall have the custody of all books, papers, documents and other property belonging to the Board, which may be deposited in his office; shall conduct all correspondence with other State Boards of Health and with the local Boards within the State; shall keep and file all reports and correspondence; shall certify to the correctness of all vouchers for expenditures; shall superintend all publications, give notice in writing of all meetings, and perform such other duties as the Board may from

time to time direct. He shall receive for his services a salary of $500 per annum, to be paid quarterly.

5. Four members shall constitute a quorum for the transaction of business.

6. The meetings of the Board shall be quarterly, viz.: On ——— in January, April, July and October, in the city of Columbia.

7. All bills for salaries and expenses shall be duly certified by the Secretary and approved by the President.

8. No money shall be expended unless the same has been authorized by the votes of the Board of Health.

9. The meetings of the Board shall be conducted according to the Parliamentary Rules governing the Legislature of South Carolina.

10. Members in attendance on meetings shall be entitled to five dollars per diem, and mileage at the rate of five cents per mile, going and returning.

11. All papers presented for publication must be sent in at or before the meeting in October, and be read in open session and approved before they shall be published.

9. Standing Committees.

Ordinances and Sanitary Code.
Medical Topography.
Endemic and Epidemic Diseases.
Quarantine.
Registration of Vital Statistics.
Finance.
Adulteration of Food and Drink.
Sale of Drugs and Medicines.
Sanitary Condition of State Penal and Charitable Institutions.

10. The Chairman of each Standing Committee shall prepare a report annually, or oftener, upon all matters considered by his Committee during the year, together with such suggestions as he may deem important, and submit the same to the Board on or before the meeting in October.

11. Order of Business.

1. Calling the meeting to order.
2. Reading Minutes of last meeting.
3. Reading Notes of Correspondence.
4. Unfinished Business.
5. New Business.

6. Resolutions or Instructions to Standing Committees.
7. Reports of Committees.
8. Voluntary Communications.
9. Miscellaneous Business.
10. Adjournment.

Report of the Standing Committee on Endemic and Epidemic Diseases.

By J. Ford Prioleau, M. D., Chairman.

Gentlemen: The Committee on Endemic and Epidemic Diseases of the Executive Committee of the State Board of Health have the honor to report that during the past year this State has been unusually healthy. They have been fortunate in escaping from any severe epidemic, and the endemic diseases which have prevailed in the different portions have been mild in character, and even the more severe have been attended with but little mortality. At the time at which the last report was made there was reason for serious apprehension that one of the most loathsome and fatal forms of disease—the smallpox—would be inflicted upon us. Springing up in the Northern and Western States, it seemed destined to spread its disastrous track across our country. Connected as we are, both by personal and commercial intercourse, with the infected places, it almost seemed impossible to escape from a most terrible epidemic. Prompt measures for, if possible, the prevention of its introduction and the protection of the people were instituted by this Board, and, with the conjoined action of the sub-Boards and the energetic efforts of the medical profession, the people were much better prepared to resist its attack should it have appeared. Never had vaccination been so generally performed; and, although we are not prepared to say that to this alone we may attribute the exemption, still we are glad that, as far as we can learn, no case has occurred. Yet, although vaccination was so general, numbers remained unprotected; and as this must ever be so, it will always remain the duty of this Board to continue to point out the value of vaccination, and to urge it not only for its immediate benefit, but with the hope that the civilized world may ultimately stamp out one of the most fatal diseases.

We congratulate ourselves that we have also escaped another of the great scourges of the present time—the one most pertaining to the South —the yellow fever. Although this disease has prevailed in the States of Florida and Texas, it has not occurred upon the Atlantic coast. It is now several years since it has been in our chief city, and we may reasonably trust that, with the vigorous and exacting quarantine regulations which have recently been in operation and the hygienic measures instituted, that it may never reappear. The city of Charleston, the chief seaport of entry of the State, and through which this disease usually enters, we are proud to say, has never been in better sanitary condition. Its streets have never been so cleanly, its scavengering never so efficient, and the miles of stone pavements so recently laid and the gradually improving grading and drainage entitle us to entertain this pleasing hope.

Some endemics have, however, occurred, which, with our imperfect knowledge of their causes, do not appear preventible. In Chester, for instance, and in the neighboring country in and near Columbia, in Charleston, etc., cases of diphtheria have cropped out from time to time throughout the year. At the former place it seemed likely that it would assume an epidemic character. It first appeared there among the colored and gradually spread to the other race. The cases were mostly mild and the mortality not great. It was impossible to trace its origin and it still continues to single out individuals. In almost every other portion of the State it has been seen in sporadic cases, but nowhere else has it shown a tendency to extend.

Typhoid fever also has occurred in the like manner, in scattered cases, but none so aggregated as to be classified as endemic. In the absence of statistics, it is, of course, impossible to ascertain the mortality or the proportion of the cases with former years. In the towns and villages it would appear that the number of cases have not increased, and from general report neither has this taken place in the country. In the cities the proportion has remained, as far as we can learn, at about the same ratio.

Scarlet fever, which as an epidemic produced so much alarm in the city of Charleston last year, and, from its proclivity to spread, so much fear throughout the State, has entirely disappeared. Some few cases have been met in other places, but nowhere has it been endemic.

We also learn of some few and scattered cases of measles, of mumps, and numerous cases of whooping cough, especially upon the cities and villages of the coast. Several of these cases were attended by more severe pulmonary affections than usual, and the disease seemed more protracted.

The nearest approximation to an epidemic exists at present in the Eastern, Western and Northern portions of the State. It would seem to be contagious—usually presenting itself as a variety of ophthalmia—spoken of

by some of the medical profession as catarrh, by others as mucopurulent, and by others as purulent conjunctivitis. It does not seem to possess so much severity as to be destructive to the organ of vision; it appears to be intractable to treatment, and long-continued in its course, attended by numerous exacerbations, and with the tendency to leave a granular condition of the lids. It first appeared in the Western portion about eighteen years ago, at the period in which the war was going on, at which time it attacked several families, all the children of which suffered at the same time. By some it was then thought to be caused by the coarse and restricted dietary of that period. It has never since entirely left those communities, and recently it has become more prevalent. It attacks both adults and children; its cause is difficult to find, and it has been attributed recently to malaria.

We regret to say that with us, as with almost every portion of the continent of North America, the malarial poison has greatly increased. We hear of its presence in almost every part of our State. In some portions, which had been previously free, we find its morbific influence modifying many of the prevailing diseases, and in its milder effect inviting to them; yet, while its spread has been so extensive, its virulence has not apparently been intensified, comparatively few deaths being attributed to this cause alone, its influence upon the constitutions of those attacked being most marked by exhausting the energy of the individual, impairing the disposition and the capacity for both mental and physical work, and for long periods after the attack has passed,—often permanently. The pecuniary loss to the State from the enfeeblement of the physical condition of the people alone is far beyond calculation. We therefore are fully in accord with our distinguished colleague, Dr. J. R. Bratton, in the opinion that the convict labor of the State should be utilized in drainage and sanitary work, so that the malarious element may be decreased if not destroyed. Malaria would seem to be gradually affecting both races in the same proportion. It is now so in the upper Districts, while the colored population upon the seaboard are apparently losing the immunity it certainly previously enjoyed.

We note the increased and increasing proclivity to pulmonary diseases in the colored portion of our people, and particularly to the most fatal form of *phthisis pulmonalis*. Upon what this depends, we cannot ascertain. Formerly with them this disease was rather rare. The City Hospital of Charleston is now filled with such cases, and we hear of it in every part of the commonwealth. We note also the numbers of persons of this race who suffer from syphilis. This disease with them, as a general rule, does not appear to be so malignant as with the whites, exhausting itself more rapidly, and not commonly assuming the most intense forms of its tertiary manifestations.

From every portion of the State your Committee regret to state comes the complaint of the deficiencies and the malpractice of midwives, and, from the fearful mortality which attends their work, one cannot but realize with horror the terrible amount of infantile life sacrificed to ignorance. The number of cases of still births throughout the State in the negro race is simply appalling; the deaths of the newly born equally so. From this fruitful source of evil also arises the much greater amount of those special accidents and affections commonly spoken of as the diseases of women, and which so often require lengthy medical treatment and difficult and protracted surgical operations. During the last two decades, or since the colored race have been entirely removed from the supervision of the white, with the careful and assiduous attention of the former mistress of the family to her parturient servants, these disorders have multiplied greatly. So serious a loss of infantile life, and so much suffering in and from maternity, require that some provision be made and enforced by which they may be prevented. This cause of mischief has been long seen, not only in the country, but in the city of Charleston particularly. So much so, that two years ago a Commission was established by the Municipal Board of Health, consisting of some of its members and some of the most intelligent physicians. Through its Chairman, Dr. J. Somers Buist, an extensive correspondence was had with several of the most prominent of the Boards of Health of different States. These Boards acknowledge, with that of Charleston, the great amount of mortality occurring with them due to the ignorance of their midwives, yet they had not found any means of preventing it, nor could they suggest any remedy or measures relief. In a most elaborate and instructive report of its Chairman, these facts were brought before the Committee, and a plan was then digested by which the midwives of the city could be instructed and then licensed, and there is the prospect of this method being speedily adopted and put into effect. We since learn that in one of the Northern States an enactment for the control of midwives has been adopted, which, with some modifications suitable to our condition, may be beneficially used in this State; but your Committee fear that at present, with our mixed and scattered population, the evil cannot be reached by legislation. It is sincerely to be desired that at least those who attend the parturient for pecuniary compensation should be forced to register, and thus be held somewhat responsible for their work. Without doubt, before very long, the State will be called upon by their female citizens to establish a "*Woman's Hospital*," the interest of humanity demanding it.

Such an institution should be organized where specially skilled medical assistance can be extended, not alone to the suffering who have been subjected to the ignorance of midwives, but, as in several of the other

States, to all who require such treatment. It remains but for some of the energetic ladies of high standing and character in their several communities to inquire into the extent of such troubles, and, for the relief of their sisterhood, to inaugurate such a movement. A "State Woman's Hospital" will then be permanently established. From the nature of such cases, their number must remain hidden until sought for by woman, for none of the physicians can know their frequency.

With the rapid extension of our railroads, and the construction of so many new, it becomes a question of some importance to the community at large if some provision should not be made by their management for attendance upon those who occasionally must, through necessity, be injured in their transit. Railroad accidents cannot be altogether prevented, and, this being the case, there should be provided, at least on each passenger train, some of the more common drugs, and simpler surgical apparatus should always accompany them. Much unnecessary suffering can thus be prevented, and perhaps valuable lives saved. At certain times and upon certain occasions (to illustrate: such as the opening of the Legislature, State Fairs, political meetings, etc.,) much of the intelligent wealth of the State is thus exposed, and fearful would be the consequence should trains (proverbially fast at such times) be wrecked. Much more would this be if the wounded required to be handled and carried miles in a suffering condition without any means of relief being furnished.

Your Committee would especially direct your serious attention to a suggestion made by the Chairman of the sub-Board of Fairfield County, Dr. T. T. Robertson. You will see that, actuated by the most humane motives, he says, among the closing sentences of the report: "*I would suggest again, as I did in my last report, that the Legislature take some action for the relief of the poor who are not in poor houses. How would it do to have a hospital at each County seat?*" And he then continues by showing how the expense contingent upon such institutions could be met by legislation.

Your Committee have been very much impressed with the suggestion. They, with the medical profession generally throughout the State, see the pressing necessity of such cottage hospitals and wish sincerely that they would be established by this means. But knowing so much of legislation, particularly where disbursements and the imposition of taxes upon the people are involved, your Committee fear such a Bill will never be drafted. We must look to some other source. There can be no reasonable doubt that in each of the specified localities and in the neighborhood there are a sufficiency of the humane and the charitable, who would, as soon as the necessity for such hospitals are pointed out and understood by them, promptly assist in their construction and support. These hospitals could,

as elsewhere, be made partially self-supporting by patients partially supported by voluntary contributions. Their construction could be inexpensive, and their support equally so. Simplicity should be sought for. They should be organized for a capacity of from twelve to twenty beds. The staff could consist of the physicians of the village, rotating in office. Two interns should be selected from young medical men or advanced students in medicine. All of these gentlemen would gladly serve for the clinical advantage which they would derive. One or more nurses, with another to be called on in an emergency, one cook, one laundress and one laborer would constitute the attendants. The interest of the ladies in this charity should be enlisted. When we consider the manner in which the ladies instituted and managed the wayside hospitals in a time of the great impoverishment of the people, who can doubt their efficiency in these works of charity?

This is neither the time or the place in which the charity, the humanity, the usefulness or the advantages of hospitals should be discussed. For centuries the civilized world has pronounced upon them. But we cannot forbear to allude to some of the special advantages. It occasionally happens that cases of infectious diseases occur in the country, the village, or has been brought there, such as smallpox, scarlatina, measles, diphtheria, etc. At present there exists no provision for the isolation of such cases, and frequently before such provision can be made the epidemic has either commenced or its seeds have been planted. Again, from the nature of the case, it must time and time occur that important cases—those more especially which require serious surgical operations—come up for treatment, when the patient is miles away from his surgical attendant, the necessities of the case demand prompt action, and the subsequent treatment frequent supervision. Distance precludes this, and, while the practitioner would gladly see the patient, very often he is restricted to either a temporary residence with the patient and the neglect of his other patients or a daily visit. How much more promising the ultimate result, how much more satisfactory to all parties, if the patient could be brought to the hospital and in the vicinity of the practitioner,—as each practitioner knows that where such cases occur the patient is often compelled to leave the neighborhood of his residence and seek relief either in some hospital or in some city? We are forced, however, to pass from this important subject, not dwelling upon the object which Dr. Robertson points out. We simply add, for the information of those who, we hope, will take action in this matter, that a valuable paper upon Cottage Hospitals has been read at a recent meeting of the Massachusetts State Medical Society, by Dr. Lucius W. Baker of Baldwinsville, Massachusetts, and that the State Board of Health of New York has issued a tract, No. 17, upon such hospitals. Numerous articles have

from time to time appeared in the medical prints of England in which it has been proved that such hospitals are more healthy than the large and imposing ones of the cities and that at least two hundred and fifty of such institutions dot the country. Every physician in our State is, however, competent to give information, both of the construction and organization of such establishments, to those in their neighborhood.

Your Committee append the reports of the sub-Boards.

They are pleased to say that a much larger number have been received, some of them being, unfortunately, quite brief. One object of such reports should be the permanent recording of the diseases which have taken place during the year in the part of the State over which the sub Committee have jurisdiction, (not the number of the cases of each disease; that would be oppressive and pertaining to vital statistics,) so that ultimately the Executive Committee of the State Board of Health would, through the successive annual reports, furnish to the people a medical history of each district, which, by consolidation, would give the healthfulness of the State and be the means of determining which portion, if any, requires assistance. With this view, no morbid condition is too simple or too worthless to notice, for such little items may be of consequence in after years.

Your Committee are also pleased to say that more active measures have been taken to render the towns, the villages and the country more healthful, and we have reason to believe that more importance has been attached to the growth and preservation of the trees and forest since attention has been called to this subject by the admirable essay of Dr. F. F. Gary, of this Board, on forestry, published in their second annual report, as a measure conducive to health.

It is perhaps well that the attention of the sub-Committees should be called to the subject of Asiatic cholera. One case has been reported in Michigan and another in Newport, R. I. It is raging at Manilla and at Aiden, near the Suez Canal, and isolated cases elsewhere. It is thought by many that this malignant epidemic progresses in cycles of periodicity. It would seem that the cycle of this disease is about seventeen years, occurring in America during 1832, 1849 and 1866, and, if so, will make its advent in 1883—the coming year. It is well known that isolation, segregation and cleanliness exert a controlling influence; but, above all, non-contamination of drinking water and the distance of the wells from the sinks. Sanitary work, as the suppression and removal of nuisances, attention to the preparation of food, cooking, water, ventilation, etc., have more generally been instituted; but especially in the matter of drainage has increased activity been displayed, although such items have not been incorporated in the sub-reports, and this information comes to us through personal and private

conversation. The increasing number of reports, the care and attention in the preparation, compare favorably with those of last year and show much more interest in State hygiene. Your Committee can now look forward with a strong conviction that before very long each of the sub-Committees will take pleasure not only in fostering the healthfulness of their neighborhood, but with co-operating with your Board in spreading upon your annual returns the work done by them and the reasons therefor. They will realize the advantage of having these reports printed and recorded from every portion of the State, containing not alone epidemics and endemics, but the climate, temperature, meteorological condition, topography, etc., of that portion over which their medical jurisdiction extends, and which collectively will make a full report of the State.

Respectfully submitted.

J. FORD PRIOLEAU, M. D., Chairman.

Report of the Committee on Quarantine.

By Dr. T. Grange Simons, Chairman.

The Committee on Quarantine respectfully report that the rules and regulations of the quarantine service of the State, after having been submitted and approved of by the Executive Committee, were printed in and bound in convenient form with such State Statutes as referred to the duties of pilots and masters of vessels, and such other information as would be useful to all interested or connected with the service, proper blanks for reporting arrivals of vessels, their condition, cargo, ballast, ports of departure and other information to be derived from masters under oath. These forms have to be signed by the master, who also at the same time receipts to the Health Officer for a copy of the rules and regulations, so that no ignorance of the law can be claimed as an excuse for violation of the rules. These forms are made in duplicate, and one copy is sent to me, so that a complete history of each vessel can be had at any time, should information be desired in regard to her. Proper blanks for discharge of vessels from quarantine have been also furnished, with other forms; also letters with detailed instructions as to proper modes of dealing with all vessels that arrive at the stations have been sent to

each Health Officer, who have been, I hope, fully informed as to the duties expected of them. The system as inaugurated by this Board has worked well. I have requested comment as to its merits and defects, as proven by test, from each of the Health Officers and others interested in the service. I shall allude to these opinions in detail as we take up each station. The enforcement of Section IV of the Code, that requires all vessels from foreign ports to stop at the quarantine station during the entire year and remain there until released by the Quarantine Officer, I think is unnecessary at the ports of Georgetown, Port Royal and St. Helena, except during the period of active quarantine service—that is, from May to November. Pilots are compelled to carry vessels with sickness to the station at all times, but during the Winter it is not essential that the quarantine officers, who leave the stations and are remote from them after November 1, should be compelled to go down to discharge every vessel from a foreign port, regardless of her condition or as to where she comes from. The enforcement of this rule will compel the residence of these officers at their stations the entire year or delay commerce until they can be communicated with to go down and release the vessels. I would recommend that Section IV be not enforced except for vessels with sickness on board, or having had it during voyage, and that the Health Officers be informed of this; also that prompt and ready response must be made by them to all calls from pilots or agents to repair to the boarding stations for all vessels detained there for inspection from them; also that the Health Officers notify pilots of this decision of the Board. This suspension of Section IV to be in force only during the period from November to May, unless otherwise changed, and only for vessels free from disease.

I have been also much interested and have sought for information and advice several times during the past months as to the safety afforded by the National and State Boards of Health in the system of inspection and other sanitary precautions taken by them to prevent the transportation and spread of disease by railroads from the infected towns in Texas and Pensacola. I informed our Chairman of all information received, and we had no reason to recommend any restrictions to commerce, as those taken nearer the infected towns were deemed sufficient. I am glad to report that our State has been exempt from the presence of any cases of even a suspicious character.

THE NATIONAL BOARD OF HEALTH AND SAPELO STATION.

The National Board of Health, we are grieved to state, did not receive the full appropriations from Congress, through misguided and influential opposition on the part of those opposed to it. The weekly bulletin has

been discontinued, and much information as to the health of domestic and foreign ports and towns has been denied Health Officers and Boards of Health, who could by these bulletins have accurate knowledge of the progress of disease and be forewarned as to its advance. Much other valuable information to sanitarians was afforded by these weekly publications. But of greater importance to us is the danger of having the National Refuge Station at Sapelo discontinued; and these fears were intensified when, on the 14th of July last, I received official announcement from Dr. W. H. Elliott that the station under his care would be closed on the 15th. I immediately informed each of the Quarantine Officers of the notice, and notified them that extra caution must be observed by them and Section 3 of our Code carefully and rigidly enforced. I also wrote to Dr. Turner, the Secretary of the National Board of Health. On the 21st of July Dr. Turner telegraphed me that Sapelo would be open until further instructions. This resulted from Dr. H. B. Horlbeck, the efficient City Registrar of Charleston, and Dr. J. T. McFarland, Health Officer at Savannah, Ga., having proceeded to Washington, and, through the medium of Senator Butler of our State, they had an opportunity of presenting the necessity to our ports on the South Atlantic of having Sapelo Station kept up. Too much cannot be said of the valuable services that these gentlemen rendered when they appeared before the Committee of Congress and plead for and urged the continuance of Sapelo Station as a refuge for infected vessels. I have been since informed that the appropriation will not suffice to maintain the station after October 1st.

I trust that this State Board of Health will request the Governor to impress our legislative bodies in his Annual Message as to the great need of this station to our own and adjoining seaports. Our present rules are all framed with this station as a place for vessels that are not safe to admit in our harbors. True, we have local stations kept up, but they are of necessity located so near the lines of travel that, in spite of guard boats and the utmost vigilance, at times smuggling and illicit traffic and communications may take place, and thus disease be brought to our homes and desolate them and paralyze all trade. At Sapelo we have a safe, commodious harbor, remote from any city, that can be entered by the largest vessels without a pilot. Blackbeard's Island affords an eligible location for hospitals, docks and bonded warehouses. The sick and well are completely separated, and cared for with attention and comfort by competent medical and other attendants. The vessel can discharge cargo, be purified, disinfected by the most approved methods. She can resume her voyage with as little delay as is compatible with safety. But even all these precautions do not prevent local Quarantine Officers from instituting such additional measures as may be deemed pru-

dent by them. This valuable outpost furnishes us with the best protection from invasion from foreign disease. The station lies in the direct route of all vessels bound to our ports from dangerous latitudes. Nor does this detention and purification by national authority invade a single right of the State. Before local authorities can allow the discharge of any cargo at any time the customs must be paid after inspections and permits by proper officials. Violations of revenue laws render vessel and cargo liable to seizure. Yet a vessel freighted with pestilence, death and desolation is now desired by the enemies of the National Health Board to be allowed to enter any port without restriction or compliance with any law except such as local authorities may impose. These local restrictions often come too late. Yet we have the National Refuge Stations, well appointed and under proper control, and every vessel on the high seas when stricken with disease will there have a haven of safety to repair to and receive humane and generous treatment.

I trust that this Committee will make a special request to our Executive Chief and to our legislative bodies, that through them the proper efforts can be made with our Senators and Representatives in Washington to secure to our State the speedy and permanent establishment of the National Refuge Quarantine Station at Sapelo. I crave the most earnest consideration from you of such measures as our Board may deem best to present to His Excellency the Governor and the Legislature as to the importance of this refuge station to perfect and strengthen our quarantine service.

Since this report was written I have been notified that Sapelo is closed. I trust that no effort will be spared to have it again opened for the next Summer, or, what would be best, to keep it open permanently.

CHARLESTON STATION.

The charge of this station is vested in the Municipal Board of Health of Charleston, who recommend for appointment, as Quarantine Officer, Dr. Robert Lebby, Jr., for years the Deputy Health Officer of the port. Dr. Lebby's experience and attention to duty render him a most valuable officer. There is a guard boat, with a crew of three men, under care of Captain Gannon. The objectionable deposit of ballast at Wappoo Mills, on Ashley River, has been stopped, and now the rock ballast is placed under the wharf at Fort Johnson. Other ballast, from infected or suspected ports, is now dumped in Hog Island Channel, at a point selected by Captain Green, U. S. Engineer in charge of the jetties. This point was selected as not influencing the formation of reefs, by being borne away by the current and deposited elsewhere and interfering with navigation. Captain Green was requested to select a suitable place,

by the Harbor Commissioners, where ballast and material dredged from the docks could be placed with safety. At the point selected the water is thirty feet deep and out of the current and away from lines of travel. The system of quarantine has worked well, and has been satisfactory, I believe, to all except those who are opposed to all restrictions and would hazard the lives of the whole community to save fees or to secure a cheaper rate of transportation by engaging vessels at suspicious ports. This class will always see oppression in every measure for public good. I am glad to say that but few such cases have existed. I applied for a detailed account of the advantages and objections to the present system, and requested any information of interest from the Board of Health of Charleston, stating the time for the meeting of the Executive Committee; but I regret to say that, up to October 3d, no information on so important a subject has been received by me. The arrivals to September 1st have been: Steamships, 14; barks, 53; brigs, 16; schooners, 8. Total, 91.

ST. HELENA STATION.

Under the charge of Dr. M. M. Sams. No report from this station, although the officer in charge was requested to give me information in time to incorporate in this paper. Receipts and expenditures for first quarter of this season and list of arrivals during each month is all that I can give. The trade in phosphate rock renders this port, with Port Royal, centres of trade. I regret that I am unable to give fuller statistics. The arrivals to October 1st have been: Steamships, 8; barks, 22; barkentines, 3; brigs, 5; schooners, 11. Total 41, from May to October.

PORT ROYAL HARBOR.

I am glad to state that the difficulties in regard to location and establishment of the station have at last been overcome, and the proper buildings erected under control of the Board of Commissioners appointed under the Act of 1879, when $5,000 was appropriated to locate a site and erect suitable buildings. After much annoyance as to titles of sites selected, the present site was secured. It consists of two (2) acres of land located on Cartwright's Creek, Paris Island. On this point of land has been erected: 1st. The hospital building, 50 feet long, with a piazza extending its Southern front. The apartments in this building are three in number. 2d. A small house with two rooms for boats' crew. 3d. A kitchen with cistern of 3,000 gallons capacity. 4th. A neat one-story cottage with four rooms and piazzas. This is plastered and painted; the others, with the fences around the enclosure, are washed with tinted lime. All are glazed and tinned. The flag staff is thirty-five feet high. The wharf is

sufficient in strength and structure to secure a proper landing for lighters. As there is an unexpended balance in the hands of the Commissioners, I trust that they will equip the hospital with furniture and bedding, as it contains nothing to render it comfortable to receive any patients. Lightning rods are also needed to all the buildings; also a large lantern or lamp on a post of suitable height. I am indebted to Dr. John A. Johnson for all information in regard to the buildings.

Some amount should be appropriated annually by the Legislature to secure the services of a keeper, else the property may suffer destruction and depredation. The Commissioners in charge will doubtless make suitable recommendations of this sort when they make their final report to the Legislature. I would suggest that Section IV of the Code be so modified as to allow the Quarantine Officers to inspect vessels at a nearer point to Beaufort, or other points than the quarantine station, after the 1st of November until May, as both of these officers desire to reside away from the stations during that period. Of course, this system of inspection to apply only to vessels that do not come under the requirements of Sections V and VI—that is, vessels from latitudes and ports not liable to infectious or contagious diseases, and such as arrive with no sickness on board and have been healthy during voyage, the Quarantine Officers to be ready to promptly inspect all arrivals when reported by pilots and consignees, and to faithfully exact all requirements of the Code, except such modifications as are thus mentioned in Section IV. I submit the report of arrivals and receipts and expenditures, as reported by Dr. Johnson, the Quarantine Officer in charge of the station:

Total arrivals: 1 bark, 1 brig, 1 schooner. Total 3.

GEORGETOWN.

The necessity of this station has been questioned and offers a problem to solve. The arrivals at this port are almost entirely coastwise, and but seldom an arrival from a foreign port occurs—the only one during the past season being a bark from Aberdeen. No arrivals from tropical ports that would be likely to introduce yellow fever occur, yet such cases might be driven in by distress or with sickness of dangerous type. In offering suggestions, I believe I am dealing with a most vulnerable place to allow any disease to obtain an entrance. I think that some arrangement might be made with the municipal authorities to secure them from invasion, by securing the services of one of the local physicians to inspect any arrival that the pilots report as requiring inspection or detention. These services could be paid from a contingent fund should an occasion arise for the services of a physician. It seems that $500 salary for a physician to do nothing, and $150 for boat hire, when no boat is needed, is an useless

expenditure. I would suggest that some correspondence be held with the local authorities as to procuring a proper inspection of vessels and care of sick, should occasion require it, and the State Board of Health to pay for such services; also, that no recommendation for appointment of Quarantine Officer be made at this port if any satisfactory arrangement can be made to protect the port. The salary and appropriation could revert to the State if not drawn upon to meet contingency.

First Quarterly Report of Receipts and Expenditures at Quarantine Station, St. Helena Sound.

DR. M. M. SAMS, QUARANTINE OFFICER.

ST. HELENA SOUND, S. C., July 31st, 1882.

M. M. SAMS, QUARANTINE OFFICER,

In Account with

THE STATE BOARD OF HEALTH.

1882.			
May.	To fumigating and disinfecting Devon		$ 65 00
May.	To fumigating and disinfecting Auria		65 00
May.	To fumigating Wm. Wilson		35 00
May.	To fumigating and disinfecting Stormy Petrel		85 00
June.	To fumigating and disinfecting Ida		45 00
July.	To fumigating Brunette		35 00
July.	To fumigating and disinfecting Frances John		45 00
	To visiting eighteen vessels, May, June, July		90 00
			$465 00
1882.			
May.	By paid boat hands	$40 00	
June.	By paid boat hands	40 00	
July.	By paid boat hands	40 00	
May.	By paid for disinfectants	6 00	
May.	By paid for sprinkler and pot	2 00	
May.	By paid for expressage on same	40	
May.	By paid advertisement	1 50	
May.	By paid flag staff	3 00	
May.	By paid building wharf	17 00	$149 90
	To balance on hand		$315 10

I certify that the above account is correct.

M. M. SAMS, Quarantine Officer,
St. Helena Sound, S. C.

Report of Receipts and Expenditures at Port Royal Quarantine Station.

DR. JOHN A. JOHNSON, QUARANTINE OFFICER.

STATE BOARD OF HEALTH

In Account with

JOHN A. JOHNSON, QUARANTINE OFFICER.

1882.	DR.	CR.
May 1. To sulphur and copperas	$ 1 50	
" " To stationery	6 00	
" " To advertising in Sea Island News	2 50	
" 31. To paid Geo. Singleton, boatman, (for May)	12 00	
" " To rations, Geo. Singleton, boatman, (for May).	4 00	
Aug. 7. To paid Geo. Singleton, boatman, (for June and July	24 00	
" " To rations, Geo. Singleton, boatman, (for June and July	8 00	
" 31. To paid Geo. Singleton, boatman, (for Aug.)	12 00	
" " To rations, Geo. Singleton, boatman, (for Aug.)	4 00	
" " To advertising the closing and opening of Sapelo "Refuge."	3 00	
Sept. 19. To hire of extra boatman on four several occasions	1 50	
" 30. To paid Geo. Singleton, boatman, (for Sept.)	12 00	
" " To rations, Geo. Singleton, boatman, (for Sept.)	4 00	
	$ 94 50	
May 4. By fee collected from brig Vincenzo Mazzella		$ 5 00
" 26. By fee collected from bark Vulcan		5 00
June 26. By fee collected from schooner B. I. Willard		5 00
		$ 15 00
Sept. 30. By amount to balance due Jno. A. Johnson		79 50
	$94 50	$94 50

Oct. 1. To amount brought down from Sept. 30th, 1882. $79 50

REPORT OF ARRIVALS OF VESSELS AT ST. HELENA AND PORT ROYAL STATIONS.

LIST OF VESSELS EXAMINED AT PORT ROYAL, QUARANTINE STATION FROM MAY 1ST TO OCTOBER 1ST, 1882.

Date.	Name and Nationality.	Port of Clearance.	Cargo.	Length of Voyage.	No. of Crew.	Condition.	Quarantine Officer's Decision.
				Days.			
May4	Italian brig V. Mazella.	Grigenti, Sicily.	Sulp'r.	81	11	Healthy.	Pratique.
" 26	Swedish bark Vulcan.	Port Eliz., So. Africa.	Ballast	75	10	"	"
J'e 14	Am. schr. B. J. Willard.	Navassa Is.	Phos. rock.	13	9	"	"

Summary—1 bark, 1 brig, 1 schooner.

LIST OF VESSELS EXAMINED AT ST. HELENA STATION FROM MAY 1st TO OCTOBER 1st, 1882.

Date.	Name and Nationality.	Port of Clearance.	Cargo.	Length of Voyage.	No. of Crew.	Condition.	Quarantine Officer's Decision.
				Days.			
May 3	British bark Devon.	Para, Brazil	Ballast	23	10	Healthy.	Detained 15 days.
" 3	British bark Aurea.	Para, Brazil	"	25	12	"	"
" 10	British bark Wm. Wilson.	Hamilton.	"	10	10	"	Detained 12 days.
" 15	British bark Stormy Petrel	Ensenadra.	"	70	12	"	"
" 20	British bark Wm. Hunter.	Madeira.	"	23	12	"	Admitted to port.
" 21	Br. steamship Gallina.	New York.	"	3	28	"	"
" 21	Swedish bark Frans.	Dublin.	"	51	11	"	"
" 27	Br. steamship Marcea.	Charleston.	"	1	27	"	"
Ju'e 1	Swedish bark Vega.	Invergord'n	"	53	14	"	"
" 4	Brit. brig Ida.	Demerara.	"	21	6	"	Detained 15 days.
" 11	Br. schooner Eliza Annie.	St. Vincent.	"	21	7	"	Admitted.
" 13	Norweg. bark Hesperia.	Dublin.	"	54	2p 11	"	"
" 26	Br. steamship Ayrshire.	Boston.	"	6	20	"	"
July 6	Br. bark Charlotte Young.	Boston.	"	23	10	"	"
" 7	Br. steamship Golani.	Philadelp'a	"	3	23	"	
" 8	British bark Jas. Mack.	Plymouth.	"	53	10	"	
" 12	British schr. Wenonah.	St. Vincent.	"	24	9	"	
" 15	British bark Aura Para.	Baltimore.	"	25	13	"	
" 16	British bark Nishka.	St. Vincent.	"	23	9	"	
" 19	Br. steamship Avondale.	New York.	"	3	26	"	
" 23	British bark Brunette.	Dakar.	"	30	10	"	Detained 5 days, fum.

LIST OF VESSELS EXAMINED AT ST. HELENA STATION FROM MAY 1ST TO OCTOBER 1ST, 1882.—*Concluded.*

Date.	Name and Nationality.	Port of Clearance.	Cargo.	Length of Voyage.	No. of Crew.	Condition.	Quarantine Officer's Decision.
				Days.			
J'y 25	British brig Francis John.	Para.	Ballast	27	8	Healthy.	Detained 15 days.
" 25	Norweg. bark Guldbringer.	Baltimore.	"	4	13	"	Proceeded.
" 26	Br. steamship Fifeshire.	Corpus Christi.	"	7	24	"	
" 26	British schr. Gordon.	Rotterdam.	"	66	8	"	
Au. 1	Br. bark Rose of Sharon.	Pernamb'co	"	26	10	"	Detained 15 days.
" 3	British bark Governor.	Boness.	"	48	13	Third day out lost one man from disease.	Admitted.
" 8	Norweg. bark Fido.	Philadelp'a	"	20	11	Healthy.	"
" 15	Br. bark'ntine Heroine.	Santos.	"	60	10	"	Quarant'ed 15 days.
" 15	Br. bark'ntine Violet.	St. Vincent.	"	30	10	"	Admitted.
" 20	Swedish bark Excelsior.	Maranham.	"	32	12	"	Quarant'ed 15 days.
" 24	Br. bark John Bampfield.	Santos.	"	55	13	"	Admitted.
" 27	Br. steamship Elginshire.	Baltimore.	"	4	25	"	"
" 27	Br. bark. City of St. Asaph.	Santa Cruz.	"	31	8	"	"
Sep. 1	Norweg. bark Natvig.	Ipswich.	"	71	11	"	"
" 6	British bark Drury.	Barbadoes.	"	13	14	"	Detained 15 days.
" 6	British brig Lucilla.	Parahyba.	"	28	8	"	"
" 6	British bark Dorothy.	Demerara.	"	18	11	"	"
" 19	Brig James Mason.	Ceara.	"	27	8	"	"
" 23	Br. st. Robert Dickinson.	Baltimore.	"	4	24	"	Admitted.

Total arrivals—8 steamships, 22 barks, 3 barkentines, 5 brigs, 3 schooners—41.

Quarantine Regulations of the Ports of South Carolina.

[The quarantine charges of the ports of South Carolina and Savannah, Ga., are identical, and the following Quarantine Code as far as relates to foreign vessels. Sections VII and VIII will not be enforced unless specially ordered by the State Board of Health.]

OFFICE OF STATE BOARD OF HEALTH OF SOUTH CAROLINA,
CHARLESTON, S. C., May 1, 1882.

From and after this date, the following charges and rules for the government of quarantine at the several ports of the State will be enforced:

ACT OF THE GENERAL ASSEMBLY, RATIFIED DECEMBER 20TH, 1881.

SECTION 4. The following uniform schedule of charges is hereby adopted for quarantine dues for all ports of the State, the amount collected to be expended for the more effective enforcement of quarantine at each port, to wit:

For every vessel boarded and inspected, $5.

For every vessel of 100 tons or less, fumigating and disinfecting, each process, $15.

For every vessel over 100 tons and less than 250 tons, fumigating and disinfecting, each process, $20.

For every vessel over 250 tons and less than 500 tons, fumigating and disinfecting, each process, $30.

For every vessel over 500 tons and less than 750 tons, fumigating and disinfecting, each process, $40.

For every vessel over 750 tons and less than 1,000 tons, fumigating and disinfecting, each process, $50.

For every vessel over 1,000 tons and less than 1,250 tons, $60.

For every vessel over 1,250 tons, fumigating and disinfecting, according to tonnage of vessel, each process, $70 to $100.

In all cases the Quarantine Officer will collect the charges made against vessels before giving permission to leave quarantine, either by Captain's draft on consignee, or in currency, and shall return the same to the Board charged with the administration of quarantine at such port, who shall be responsible for the disbursement of the same.

I. On and after the opening each year of the National Quarantine Station, (Sapelo Sound,) all vessels from infected or suspected latitudes arriving with plague, cholera, smallpox, yellow or typhus fevers on board,

or having had same during voyage, must be directed by the pilot to proceed to such National Quarantine Station.

II. Any vessel arriving at any port bearing the certificate of the National Quarantine Officer must be brought to anchor at the quarantine station, and there remain until released by the order of the Quarantine Officer.

III. During the closure of said National Quarantine Station, all vessels such as above described must anchor at the Port Quarantine Station, under personal direction of the Quarantine Officer.

IV. Vessels from any foreign port direct, or *via* American ports, with or without sickness on board, will, during the entire year, be compelled to anchor and remain at the quarantine station until released by written permit of the Quarantine Officer.

V. All vessels arriving at any port with sickness on board, or having had same during voyage, will, at all seasons of the year, no matter from what port, either American or foreign, anchor at the quarantine station, and there remain until released by order of the Quarantine Officer of the port.

VI. Vessels from infected or suspected latitudes will, during the entire year, be required to discharge any and all ballast at the quarantine station, or such other place as may be designated by the health authorities, to have bilges and limbers cleaned and sweetened, and from November 1st to May 1st of each year be subjected to at least one fumigation, and from May 1st to November 1st of each year be subjected to at least two fumigations, and such other disinfection as may be necessary, and be detained at least fifteen days.

VII. On and after May 1st and until November 1st of each year, and longer if the State Board of Health so determine, all coastwise vessels or steamers from latitudes South of Cape Hatteras, other than those by inland route, must anchor at the quarantine station. Steamers and vessels from non-infected or non-suspected ports will not be detained longer than necessary for the Quarantine Officer to satisfy himself of their perfect sanitary condition.

VIII. Coastwise steamers and vessels arriving at this port by inland route from latitudes South of Cape Hatteras between May 1st and November 1st, and later if the State Board of Health so determine, must be inspected and given permit by the Quarantine Officer before the landing of either passengers or freight.

IX. From May 1st to November 1st of each year, no vessel from an infected or suspected latitude will be allowed to either lighter or bring cargo of fruit up from quarantine station.

X. Pilots must in each case before boarding make inquiry as to the sanitary condition of vessels. In no case must they board if the vessel

has contagious or infectious sickness on board, or has had same during voyage. In such cases they must either direct to Sapelo Quarantine Station, lead the vessel in, or have their small boat hoisted alongside clear of the water, and in this way pilot the vessel in.

By order of State Board of Health.

.....

Quarantine Officer Port of ....., S. C.

RULES AND REGULATIONS

TO CONTROL THE

QUARANTINE SERVICE

AT THE SEVERAL

PORTS OF THE STATE,

AS ADOPTED BY THE STATE BOARD OF HEATH OF SOUTH CAROLINA, APRIL 6TH, 1882.

AN ACT TO RENDER MORE EFFICIENT THE QUARANTINE SERVICE OF THE SEVERAL PORTS OF THE STATE.

SECTION 1. *Be it enacted* by the Senate and House of Representatives of the State of South Carolina, now met and sitting in General Assembly, and by the authority of the same, That for the more certain prevention of the introduction of disease into the several ports of this State, every vessel arriving from a foreign port, or from a suspected or infected port of the United States, shall immediately proceed to the quarantine station of the port of arrival and display a yellow flag, or the vessel's ensign in the rigging, and shall be visited by the Quarantine Officer, between sunrise and sunset, as soon as possible after such arrival.

SEC. 2. All vessels which have had infectious or contagious disease on board during the voyage, or while in the port of departure, and also all vessels from infected or suspected latitudes or ports, shall be subjected to a detention of not less than five (5) days, or for such longer time as the constituted health authorities at the port of arrival may deem requisite; and pratique shall not be given to any such vessel until such vessel shall have been thoroughly disinfected and fumigated, the cargo and ballast having been first discharged.

SEC. 3. All masters of vessels or other persons violating any of the provisions of this Act, or disobeying any of the published regulations of the health authorities of any port, and all persons whomsoever who shall, without permission of such authorities, invade the quarantine grounds or station of such port, or who shall hold any communication or attempt to hold any communication with any vessel or any officer or any passenger or member of the crew of any vessel lying at the quarantine or under control of the said authorities, shall be guilty of a misdemeanor, and upon conviction shall be punished by fine not exceeding two thousand dollars or by imprisonment not exceeding twelve months, or both, in the discretion of the Court.

SEC. 4. The following uniform schedule of charges is hereby adopted for quarantine dues at all ports of the State, the amount collected to be expended for the more effective enforcement of quarantine at each port, to wit:

For every vessel boarded and inspected	$ 5 00
For every vessel of 100 tons or less, fumigating and disinfecting, each process	15 00
For every vessel over 100 tons and less than 250 tons, fumigating and disinfecting, each process	20 00
For every vessel over 250 tons and less than 500 tons, fumigating and disinfecting, each process	30 00
For every vessel over 500 tons and less than 750 tons, fumigating and disinfecting, each process	40 00
For every vessel over 750 tons and less than 1,000 tons, fumigating and disinfecting, each process	50 00
For every vessel over 1,000 tons and less than 1,250 tons, fumigating and disinfecting, each process	60 00
For every vessel over 1,250 tons, fumigating and disinfecting, according to tonnage of vessel, each process.....$70.00 to	100 00

In all cases the Quarantine Officer will collect the charges made against vessels before giving permission to leave quarantine, either by Captain's draft on consignee, or in currency, and shall return the same to the Board charged with the administration of the quarantine at such port, who shall be responsible for the disbursement of the same.

SEC. 5. That the administration of quarantine of the port of Charleston shall be in charge of the Board of Health of the city of Charleston, (subject to the advice and supervision of the Executive Committee of the State Board of Health,) and they shall have full power and authority to make such rules and regulations for the institution and enforcement of quarantine as they may deem expedient and as may be conformable to law.

SEC. 6. The Quarantine Officer of the port of Charleston shall be appointed by the Governor, on the nomination of the Board of Health of the city of Charleston. He shall be invested with all powers and authority heretofore by law conferred upon the Health Officer of the port of Charleston, and he shall exercise such powers and authority under the direction and control of the said Board of Health of the city of Charleston. He shall receive a salary from said Board at the rate of fifteeen hundred dollars per annum and he shall reside at the quarantine station. He shall be appointed during the month of January of each year and hold his office for one year, and until his successor shall be appointed, unless sooner removed by the Governor at the request of the Board of Health of the city of Charleston, or for other reasons satisfactory to him.

SEC. 7. That for the purpose of carrying out the provisions of this Act with regard to the port of Charleston, the sum of twenty-five hundred dollars be annually appropriated, to be paid by the State Treasurer on the order of the Chairman of the Board of Health of Charleston.

SEC. 8. That the ports of the State which are not specifically provided for in this Act shall remain under the supervision and control of the Executive Committee of the State Board of Health. And a Quarantine Officer shall be appointed at each of the said ports, who shall be vested with the powers and authority heretofore by law conferred upon the Health Officer, and shall exercise the same under the direction and control of the Executive Committee of the State Board of Health, or such local Board as the Executive Committee of the State Board of Health may appoint for that purpose. He shall return to the said Executive Committee or to the said local Board all fees collected by him, and shall receive for his services annually the following, to wit:

Quarantine Officer at port of Georgetown, five hundred dollars, and one hundred and fifty dollars for boat hire.

Quarantine Officer at St. Helena entrance, eight hundred dollars, and one hundred and fifty dollars for boat hire.

Quarantine Officer at Port Royal, eight hundred dollars, and one hundred and fifty dollars for boat hire.

He shall be appointed by the Governor, on the recommendation of the Executive Committee of the State Board of Health, during the month of January of each year, and shall hold his office for one year, and until his successor shall be appointed, unless sooner removed by the Governor at the request of the Executive Committee of the State Board of Health, and shall reside at the quarantine station.

SEC. 9. That all Acts and parts of Acts inconsistent with this Act be, and the same are hereby, repealed.

In the Senate House, the nineteenth day of December, one thousand eight hundred and eighty-one.

J. D. KENNEDY, President of the Senate.

J. C. SHEPPARD, Speaker House of Representatives.

Approved December 20th, A. D. 1881.

JOHNSON HAGOOD, Governor.

STATE OF SOUTH CAROLINA,

OFFICE OF SECRETARY OF STATE.

I, R. M. Sims, Secretary of State, do hereby certify that the foregoing is a true copy of an Act on file in said office.

Witness my hand and the great seal of the State at Columbia this 1st day of February, 1882.

R. M. SIMS, Secretary of State.

RULES AND REGULATIONS OF THE QUARANTINE SERVICE AT THE SEVERAL PORTS OF THE STATE OF SOUTH CAROLINA.

1. Every vessel arriving from a foreign port, or infected port of the United States, shall immediately proceed to the boarding station and display a yellow flag, or the vessel's ensign in the rigging, and shall be visited by the Quarantine Officer, between sunrise and sunset, as soon as possible after such arrival.

The Quarantine Officer, on boarding a vessel, will furnish the master with a printed copy of the quarantine regulations of the port.

The Quarantine Officer shall examine her bill of health and inspect the ship, and require of the Captain or master answers, in duplicate, under oath, to the following questions, which, as soon as obtained, will be forwarded to the Chairman of Quarantine Committee of the State Board of Health:

STATE OF SOUTH CAROLINA,

QUARANTINE STATION,

PORT OF ....., 1882.

DEAR SIR: I have the honor to report the arrival of..... ....., at this station, on ....., and submit the following answers of commanding officer, over his signature:

1. From what port did your vessel clear?
2. When did you sail?
3. From what port did you clear prior to last clearance?
4. What was your cargo or ballast from that port?
5. Number of crew?
6. Number of passengers?
7. What ports have you touched at during voyage?

8. Was there any infectious or contagious disease at port from which you cleared? If so, what?

9. Was there any infectious or contagious disease at any port at which you touched? If so, where and what disease?

10. Has there been any infectious or contagious disease on board this vessel during last twelve months? If so, what disease?

11. Have you a bill of health? If not, why?

12. What sickness on board while in port of clearance?

13. What sickness on board during voyage?

14. What sickness on board since arrival here?

15. What cargo?

16. What kind of ballast?

17. Where was this ballast obtained?

18. Have any of your crew or passengers come in contact, during the voyage, with any vessel having sickness on board, or with any vessel from an infected port?

I certify that I have truthfully answered each and every one of the above questions; also, that I have received a copy of the printed quarantine regulations from the Quarantine Officer.

....., Captain of ship....., of.....

Having made a thorough inspection of vessel, cargo, ballast and log book of the.....
I respectfully report.....

.....

Quarantine Officer.

2. No vessel shall be kept under observation more than twenty-four hours without a stated decision in writing by the Quarantine Officer.

3. Vessels neither suspected nor infected shall be at once given free pratique, and allowed to proceed to the wharf or usual anchorage.

4. In case the vessel is infected the following rules shall govern the Quarantine Officer:

(*a.*) The crew and passengers shall be inspected by the Quarantine Officer, and if any are sick they shall be removed to the proper hospital, care being taken that their persons be cleansed, as far as is consistent with their condition, and that no part of their clothing or bedding enters the hospital until thoroughly disinfected.

(*b.*) Passengers not sick shall be removed to quarters prepared for their reception, and their clothing and baggage shall be thoroughly disinfected.

(*c.*) All other clothing, bedding and dunnage in the vessel shall be thoroughly disinfected.

(*d.*) The vessel's hold shall be subjected for twenty-four hours, as thoroughly as practicable, to a first process of disinfection by fumes of burning sulphur before disturbing the cargo, the hatches and air-ports being tightly closed; after which the hatches shall be opened and the hold of the vessel, as far as possible, aired, the bilge water pumped out, and the cargo immediately transferred to the warehouses or lighters, if such transfer is deemed necessary by the Quarantine Officer, either to secure the thorough cleansing and disinfection of the ship, or because the cargo itself is of such a character that requires disinfection.

In deciding as to the necessity for removal or treatment of cargo the Quarantine Officer shall be governed by the following considerations:

If the ship be a foul ship, the removal of cargo and ballast will almost always be necessary to secure thorough cleansing of the hold.

(*e.*) The ballast, if earth, sand or porous stone, shall be deposited under water at a point to be selected by the proper health authorities. Vessels needing a certain amount of ballast to maintain their upright position will be required to use float ballast in order to complete the proper cleansing of the hold.

(*f.*) After this preliminary disinfection, and the discharge of cargo or ballast, if necessary, the vessel shall be thoroughly cleansed, disinfected and reventilated under the supervision of the Quarantine Officer; and this shall apply to the hold, bilge, limbers, the forecastle or sleeping apartments of the crew, the caboose and the cabins for passengers, as well as bunks, portable berths, bedding, etc. All decaying wood shall be scraped and disinfected with strong solutions of the sulphates or chlorides of iron or zinc.

(*g.*) Until this process of cleansing and disinfection has been completed to the satisfaction of the Quarantine Officer, as shown by his certificate to that effect, there shall be no communication between the vessel and the shore, or other vessels, except by the written permit of the Quarantine Officer, and then only in the manner and for the purpose specified in said permit; and any person or vessel communicating, without such permit, with a vessel in quarantine, shall also be placed in quarantine and treated as suspected, besides incurring the penalties prescribed by statute. The vessel shall be discharged from quarantine after a thorough cleansing and disinfection, but only upon the certificate of the Quarantine Officer.

5. The sick shall be detained in hospital until the Quarantine Officer decides that their discharge will not be attended with danger to themselves or to others.

6. Persons under observation shall be detained for not less than five days, or as long as it shall be necessary, in the judgment of the Quarantine Officer. Passengers shall be detained no longer than for the period of incubation of the disease or diseases for which the ship is quarantined. In case, however, that yellow fever, cholera, plague, smallpox or relapsing fever occur among the passengers so detained, the Quarantine Officer shall send the person or persons affected with such disease to hospital, and the others shall be detained until he shall be satisfied of their freedom from infection.

7. In case of smallpox, the sick shall be sent to hospital, and those not sick shall be immediately vaccinated, or revaccinated, at the discretion of the Quarantine Officer; after which they shall be allowed to proceed to their destination (after the period of incubation of diseases has passed.)

8. Persons employed at the quarantine station brought in contact with vessels infected with yellow or typhus fevers, smallpox, plague, or cholera, shall not be permitted to leave such station until their clothing and baggage has been disinfected, nor until, in the judgment of the Quarantine Officer, sufficient time has elapsed since the last exposure.

9. It shall be the duty of the Quarantine Officer to take the responsibility of applying such measures as he may deem indispensable for the protection of the public health.

QUARANTINE CODE.

The quarantine charges of Charleston and the other ports of South Carolina and Savannah, Ga., are identical, and the following quarantine code, as far as relates to foreign vessels:

1. On and after the opening each year of the National Quarantine Station, (Sapelo Sound,) all vessels from infected or suspected latitudes arriving with plague, cholera, smallpox, yellow and typhus fevers on board, or having had same during voyage, must be directed by the pilot to proceed to said National Quarantine Station.

2. Any vessel arriving at any port bearing the certificate of the National Quarantine Officer must be brought to anchor at the quarantine station, and there remain until released by the order of the Quarantine Officer.

3. During the closure of said National Quarantine Station, all vessels such as above described must anchor at the Port Quarantine Station, under personal direction of the Quarantine Officer.

4. Vessels from any foreign port direct, or *via* American ports, with or without sickness on board, will, during the entire year, be compelled to anchor and remain at the quarantine station until released by written permit of the Quarantine Officer.

5. All vessels arriving at any port with sickness on board, or having had same during voyage, will, at all seasons of the year, no matter from what port, either American or foreign, anchor at the quarantine station, and there remain until released by order of the Quarantine Officer.

6. Vessels from infected or suspected latitudes will, during the entire year, be required to discharge any and all ballast at the quarantine station, or such other place as may be designated by the health authorities, to have bilges and limbers cleaned and sweetened, and from November 1st to May 1st of each year be subjected to at least one fumigation, and from May 1st to November 1st of each year be subjected to at least two fumigations, and such other disinfection as may be necessary, and be detained at least fifteen days.

7. On and after May 1st and until November 1st of each year, and longer if the State Board of Health so determine, all coastwise vessels or steamers from latitudes South of Cape Hatteras, other than those by inland route, must anchor at the quarantine station. Steamers and vessels from non-infected or non-suspected ports will not be detained longer than necessary for the Quarantine Officer to satisfy himself of their perfect sanitary condition. Vessels from infected or suspected latitudes will have to comply with Section 6, be fumigated at least twice, and detained at least fifteen days.

8. Coastwise steamers and vessels arriving at this port by inland route from latitudes South of Cape Hatteras between May 1st and November 1st, and later if the State Board of Health so determine, must be inspected and given permit by the Quarantine Officer before the landing of either passengers or freight.

9. From May 1st to November 1st of each year, no vessel from an infected or suspected latitude will be allowed to either lighter or bring cargo of fruit up from the quarantine station.

10. Pilots must in each case before boarding make inquiry as to the sanitary condition of vessels. In no case must they board if the vessel has contagious or infectious sickness on board, or has had same during voyage. In such case they must either direct to Sapelo Quarantine Station, lead the vessel in, or have their small boat hoisted alongside clear of the water, and in this way pilot the vessel in.

NOTE.—Sections 7 and 8 will not be enforced unless specially ordered.

PILOTS.

SEC. 11. It shall be the duty of the pilots of the ports to use their utmost endeavors to hail every vessel they shall discover entering the port and to interrogate the master of such vessel in reference to all matters necessary to enable such pilot to determine whether, according to the provisions of the preceding Sections, such vessel is subject to quarantine or examination by the Health Officer.

SEC. 12. If from the answers obtained to such inquiries it shall appear that such vessel is subject to quarantine or examination by the Quarantine Officer, according to the preceding Sections, the pilot shall immediately give notice to the master of the vessel that he, his vessel, his cargo, crew and passengers, are subject to such examination, and that he must proceed and anchor said vessel at the quarantine anchorage, there to await the further directions of the Health Officer.

SEC. 13. It shall be the duty of every pilot who shall conduct into port a vessel subject to quarantine or examination by the Health Officer:

1. To bring such vessel to anchor within the buoys marking the quarantine anchorage.

2. To prevent any vessel or boat from coming alongside of the vessel under his charge and to prevent anything on board from being transferred to or thrown into any other vessel or boat.

3. To take care that no violation of Chapter XXXIII, Revised Statutes, be committed by any person, and to report such as shall be committed as soon as may be to the Health Officer.

4. To subject himself to such detention and delay, and cleansing and purification, as to his person and clothing, as shall be prescribed by the Health Officer, after having boarded or brought to the quarantine ground any vessel subject to quarantine.

MASTERS OF VESSELS.

SEC. 29. Every master of a vessel subject to quarantine, or visitation of the Health Officer, arriving in either of the said ports, who shall refuse or neglect either:

1. To proceed with and anchor his vessel at the place assigned for quarantine at the time of his arrival;

2. To submit his vessel, cargo and passengers to the examination of the Health Officer, and to furnish all necessary information to enable that officer to determine to what length of quarantine and other regulations, respectively, to be subject; or,

3. To remain with his vessel at quarantine during the period assigned for the quarantine, and while at quarantine to comply with the directions and regulations prescribed by law, shall be guilty of a misdemeanor, and be punished by fine not exceeding two thousand dollars, or by imprisonment not exceeding twelve months, or by both such fine and imprisonment.

SEC. 30. Every master of a vessel hailed by a pilot who shall either:

1. Give false information to such pilot relative to the condition of his vessel, crew or passengers, or of the health of the place, or places, from whence he came, or refuse to give such information as shall be lawfully required;

2. Or land any person from his vessel, or permit any person, except a pilot, to come on board of his vessel, or unlade or tranship any portion of his cargo, before his vessel shall have been visited and examined by the Health Officer;

3. Or shall approach with his vessel nearer to the wharves in said ports than the place of quarantine to which they may be directed, shall be guilty of the like offense and subject to the like punishment; and any person who shall land from any vessel, or unlade or tranship any portion of her cargo, under like circumstances, shall be guilty of a like offense and subject to the like punishment.

Report of the Standing Committee on the Sale of Drugs and Medicines.

BY J. FORD PRIOLEAU, M. D.

Your Committee have every reason to believe that a great amount of injury is being done throughout the State by the promiscuous sales of drugs and medicines. Yet, while taking this view, they cannot but acknowledge that much benefit is also accomplished by the selling of the simpler varieties of medicines directly to the people, as much is done by the domestic remedies given by mothers of families for the slighter ailments. So that it is difficult to determine where the line should be drawn which divides the simpler drugs from those more potent, and where the sale of medicines and drugs should be restricted. There can be no doubt, however, that the prescribing behind the counter by druggists, by their use of the old prescriptions of physicians, by the advertisement and

vending of nostrums of which the originator alone knows the ingredients, that mischief occurs.

Those who would instinctively shrink from the tampering with human life do not hesitate to advertise and vend agents whose use may bear these results. If only sold in the way of business they cannot be made to see their moral responsibility. This evil is very extensive—not alone confined to the druggists; numbers of others lend themselves to this means of gain. We see the secular press filled with advertisements of medicines. Each year upon the counters of apothecaries and others we find millions of copies of so-called medical almanacs for gratuitous distribution, lauding perhaps one, perhaps many, nostrums. The grocers in many of the smaller places keep and sell medicines. Numerous journals and reviews place notices of them on their pages, and even some of the medical publications pollute their issue by such advertisements. We are glad to notice, however, that a healthy reaction is gradually taking place. Actuated by motives of humanity several of the most prominent of the newspapers and reviews now refuse to admit such notices, certificates and advertisements in their prints. That the sale of these agents is on the increase we have every reason to believe, founded upon the immense amounts invested in their manufacture and sale, the number and variety which succeed each other in such alarming rapidity, and by the numerous traveling agents employed. So common has this become, and so active the agents engaged, that scarcely a vacant spot upon a fence, a prominent tree or rock, or an exposed surface upon our streets or roads which is not defaced—some of the notices being even offensive to the moral senses. Their worthlessness is shown by their limited run. Tried by all kinds of people—the educated and illiterate—they soon are condemned, pass off, to be succeeded by a host of others equally worthless, not only in themselves for the objects for which they had been purchased, but detrimental to those who take them.

There is another variety of proprietary medicines which are becoming more generally employed, whose proprietorship depends, not upon the secrecy of the ingredients, but upon the manner of their compounding and preparation. With these the formulæ are conspicuously given upon the labels. It would seem quite admissible for the physician to employ them.

The appliances of the pharmacists have increased amazingly. With the introduction of steam and the complicated and extensive machinery, much greater facilities have been made in manufactures. The handling of large masses at one time enable medicines to be treated by new and ingenious methods, by which the preparations are more elegant, and the condensation and the extraction of the active principles improved, and the apportionment of the ingredients more nicely adjusted than could

be accomplished by the hand alone. There can be but one objection to their use by the physician, and this is the facility which patients and others have of obtaining and repeating indefinitely what the physician has prescribed and the temptation of doing so. Observing the benefit which has been obtained by the use of one or more such compounds, taking but an uneducated and superficial view of the reasons why they have been prescribed, they conclude that symptoms and affections in others are identical with that they have seen treated by the physician and freely and indiscriminately purchase and use them. The proprietors of the preparations anticipate just this course and look to it for their pecuniary returns. They thus make use of the doctors as their agents. Hence the number of traveling gentlemen sent out from the several large manufacturing laboratories, who pass over all the country calling upon the practitioners, soliciting from them only the introduction of their preparations, and leaving with him the "physician's sample," knowing that through him and with the implied sanction of his use the preparations will be extensively purchased. For the druggist to prescribe such medicines, which most frequently are very potent, or for him to sell them without seriously warning of their danger, would seem criminal; yet we fear this is done.

It is acknowledged that the moral obligation due to one's neighbor is not just now sufficient to obstruct the path of gain. The evil of the sale of drugs by the ignorant is twofold: Negative, by the patient postponing or not obtaining the medical advice perhaps necessary in the case; positive, by allowing a disease unknown to them to run on unchecked to danger by selling a drug whose therapeutical value and adaptability to a diseased condition none but a physician can recognize.

Your Committee fear that they are unable to recommend any measure to lessen this universal mischief. They think it may safely be affirmed that it is impossible for legislation to advance beyond the wishes of the people—more so adversely to them, especially in States in which the people govern; so that at present there can be but little accomplished in restricting the promiscuous sales of drugs and medicines. And until such restriction accords with the public sentiment, which can only be accomplished by the people apprehending the danger of permitting others than the physician to prescribe for them, or of prescribing for themselves, this amount of evil must necessarily take place. Unfortunately, the complimentary (?) title which the druggists enjoy (doctor) is calculated to deceive. It implies with the ignorant at least one who has a special acquaintance with disease, and with the action of drugs in controlling disease—one in whom the people can place confidence. While often the druggist does not profess to have this knowledge, and is frequently

coerced into prescribing, from the fact that if he does not it will be followed by loss of reputation and of business standing.

Respectfully submitted.

J. FORD PRIOLEAU, M. D.,
Chairman.

Report of the Committee on Sanitary Code and Ordinances.

By T. Grange Simons, M. D., Chairman.

In presenting this report, I would state that, in obedience to instructions from this Board, I have drawn up an "Act to organize Boards of Health and for the better protection of public health," and offer it for your consideration.

The matter of rules and ordinances to control local Boards of Health presents several complex features. The diversity of conditions met with in each locality as to soil, geological formation, personal habits and occupations, render it impossible to give fixed rules that can be applied to all the requirements of every community. I have presented certain enactments that require local Boards to take cognizance of certain duties, but leaving the details of execution to the peculiar interests or local conditions that must shape local laws. The Bill is for the most part taken from the New Jersey Bill as proposed by the Board of Health of that State and now in force in that State. I am indebted to Dr. Ezra M. Hunt for a copy of the Bill and a letter with much valuable information. Dr. Hunt's great experience in such sanitation makes his opinions of great value.

Dr. H. B. Baker, Secretary of the Michigan State Board of Health, and Dr. J. B. Rauch, Secretary of the Illinois State Board of Health, rendered me much assistance by furnishing reports of great interest that had been made to their respective Boards.

In the paper that I have prepared and print with my report "On the Organization of Sub-Boards and the Duty of the Citizen as a Factor in Preserving Public Health," I have endeavored to show the duty of the individual householder and citizen, showing the mutual interdependence that must exist, and how much good can result from the harmonious

concert of action between the individual and corporations charged with sanitation. I have used ideas and text from the reports mentioned and from several other papers on sanitation that I have had access to. The paper is intended to be practical, and I have avoided using any technicalities that may not be fully understood by the people for whose benefit I trust it may be for. The paper is not an official report, but only accompanies the report, and was framed whilst hunting material for the report.

Report of Special Committee as to the Propriety, in a Sanitary Point of View, of Storing Guano and Other Fertilizers in Villages and Towns.

By P. A. Wilhite, M. D., Chairman.

In accordance with a resolution passed at our last regular meeting in April, appointing me as a Committee of one to investigate and procure such facts as I might be able, as to whether guano and fertilizers, as deposited in our towns and villages, produces sickness. In accordance with that resolution I have gone to work and have interviewed the following medical gentlemen, scattered over a large portion of our State:

W. A. Harrison, M. D., Reidville, S. C., says that guano has been deposited in his village four years. Has not created a case of sickness recognized and traceable to that cause by me directly or indirectly. Four families living within one hundred yards. They complain of the smell, but have had no sickness. Dacusville, a station on the Air Line Railway, within the bounds of his practice, with twelve or fourteen families, five guano houses, and no case of sickness traceable to that cause.

Dr. J. T. Anderson, of Dacusville, believes where large quantities are stored sickness will be produced, and his reason is that it smells bad.

Dr. S. V. Westmoreland, Greenville Station, in Greenville County, and similarly situated, and about the same number of inhabitants as the last place named, (Dacusville,) says that he has not been able to trace any case to guano deposits.

Dr. O. B. Mayer, Jr., Newberry: "I don't believe any form of fertilizer now upon the market, except the ammoniated, manufactured from animal materials, are in any way injurious, and I do not know that the ammoniated are.

Dr. A. A. Moore, Camden, says: "I have not observed the increase of any form of disease traceable to guano deposits."

Dr. J. F. Mackey, Lancaster, says: "I have never traced any case of sickness to the smell or influence of guano."

Dr. T. R. Cureton, N. C.: Believes it produces intermittent fever, but gives no observation of facts.

Dr. T. P. Bailey, Georgetown, says: He lives near the wharf where vessels are unloading large quantities at certain seasons of year, and upon the wharf large quantities are kept almost all the time. Don't believe it produces any class of disease.

Dr. Thos. J. McKie, Wood Lawn, Edgefield: "Have never observed any increase of any class of diseases from the introduction of guano."

Joseph Hill, Spartanburg C. H., says: "So far as my observation and experience has been, have not found it deleterious to health."

Dr. J. H. Foster, Lancaster: "Do not believe guano houses or deposits produce sickness directly."

Dr. M. C. Cox, Laurens County: Lives in the country. Believes sickness is produced by its deranging the system. Gives no reason for belief.

Dr. T. H. Means, Spartanburg, says: "So far as my observation and experience has been, have found no case of sickness traceable to guano directly or indirectly."

Dr. T. Munro, Union County: Believes it produces typhoid fever.

Dr. R. R. Darwin, York: Never saw any ill effects from guano as we find deposited in towns and cities.

Dr. W. R. Jones, Greenville, says: There are six or eight large guano deposits in the city. Was Mayor when the effort was made by the citizens to have all guano removed out of the city limits. Had a great deal to do with it—investigated the subject as thorough as he could, but have not seen, or do I believe, sickness of any kind arises from it. It is a nuisance.

Dr. W. T. Jones, Hodge's Depot, Abbeville: "From my observation I am not prepared to say that it increases any form of sickness."

Dr. R. V. Littlejohn, Jonesville, Union County: Believes where large quantities are stored will produce typhoid and throat affections.

Dr. J. W. Folk, Jalapa, Newberry County: Believes it produces malarial diseases.

Dr. H. M. Holmes, Spartanburg: "Have not recognized any class of diseases arising from guano deposits."

Dr. W. T. Russell, Spartanburg city, says: "I have no clear and undoubted evidence that our fertilizers prepared ready for the land and put up in sacks are productive of sickness. The odors are offensive, and instinct and experience teaches us to shun them."

Dr. W. H. Vardin, Anderson: "I have been living with my family for a number of years within one hundred and fifty yards of six or eight large guano houses, where large quantities are stored during the Winter and Spring months. Have had no sickness in my family, nor have I seen in the families of any of my neighbors, any case of sickness or disease supposed to have been caused by those guano deposits. Do not believe any disease or class of diseases are produced by such deposits."

WINNSBORO, July 3d, 1882.

DR WILHITE.

DEAR DOCTOR: Your letter inquiring about the "effects of guano and other fertilizers deposited in towns and cities" is at hand. I believe and know that it makes us feel very uncomfortable to smell the nasty stuff, and wish I could say that it is unwholesome; but if you put me on my oath, I can't do it. The thing has been tested, I think, fairly, and I have not seen any disease yet that I believe was caused by it. It will make a pregnant woman vomit; but how many other things will do this? And it will make a weak stomached man cuss a little; but, then, it gives him a good excuse to take a drink of *good old rye;* and if the question is between excluding both guano and the rye from the towns and cities or retaining both, it would be easily settled, at least till woman suffrage is allowed,—then things would become lively, and I rather think the guano would have to be moved; I am sure the rye would. Am sorry I can't say it is unwholesome.

Truly yours, T. T. ROBERTSON.

OFFICE SUB-BOARD OF HEALTH,
CENTRAL, S. C., September 30th.

HENRY D. FRASER, *M. D., Secretary Executive Committee State Board of Health.*

DEAR SIR: Our County for the past year has been remarkably free from the ravages of disease; fewer cases of typhoid fever than in twenty years. With the exception of a few cases of malignant typho-malarial fever and an epidemic of measles, we have had no trouble up to July 15th. Since then tonsilitis, "sore throat," bronchitis and laryngitis have prevailed to a considerable extent, but all in a mild form. Four weeks ago diphtheria appeared in an adjoining County, (Anderson,) and a few cases have recently appeared here, two of which have proved fatal.

We have given free vaccination to about (500) five hundred children, with some adults, for which we have as yet received no compensation. We would ask your Committee to look after this for us.

Respectfully submitted.

S. W. CLAYTON, Chairman.
T. W. FOLGER, M. D., Secretary.

Reports of Sub-Boards of Health.

HENRY D. FRASER, *M. D.*,

Secretary State Board of Health, Charleston, S. C.

SIR: The unusual amount of rainfall and extreme variations of temperature the present year has been the cause of an increased amount of sickness in Abbeville County, and the death rate has been correspondingly increased over that of 1881.

Rothelm, or German measles, whooping cough and acute ophthalmia appeared in an epidemic form.

The ophthalmia, if treated early, yielded to a lotion of Epsom salts, laudanum and water. In the severer cases of conjunctivitis other treatment was necessary.

We report fewer cases of dysentery and diarrhœa, and almost an entire absence of typhoid fever.

Diseases of the throat among children were prevalent in certain localities, and a few scattering cases of diphtheria.

Malarial diseases prevailed over the entire County, in some localities assuming a severe congestive type, ending fatally after a brief illness.

The sickness and death rate has been greatest among the colored population. This class of our population pay but little attention to sanitary regulations, nor do they provide themselves with suitable medicines or proper medical attendance.

In this connection we endorse the suggestion in the report of the sub-Board for Fairfield in 1881: "Would it not be wise and humane for the Legislature to make some appropriation and some provision for medical attendance on the poor who are not inmates of the poor house?"

In conclusion, we indulge the hope that the people may be brought to appreciate and profit by the labors of the State Board of Health, who give their time and talents, asking no compensation, no return from the people but an acquiescence in and obedience to the wise sanitary regulations framed on the experience of the most learned sanitarians throughout the world, and which is distributed each year in their report to the Legislature. The good results from such observance appeals to every interest in the State.

Respectfully,

F. F. GARY, M. D.
B. C. HART.
L. DAWSON.

BEAUFORT, S. C., September 1st, 1882.

H. D. FRASER, *M. D.*

DEAR SIR: In reply to your card of August 13th, I beg leave to state that the town of Beaufort has been since my last report perfectly healthy, nothing occurring to alarm or even to excite a suspicion of an infectious or contagious disease. The rumor having reached us of the danger of smallpox being introduced into the State, the town authorities, through my recommendation, ordered all who had never been vaccinated, or those who had been vaccinated at a period exceeding six years, to be vaccinated. I consequently procured scabs from private sources, also points from "Caswell, Hazzard & Co., N. Y.," and 1,000 persons were vaccinated—very few failing to take. A peculiarity, observed not only by myself but by others, was: the pustule created by the *points* were of a very violent and inflammatory character, causing deep ulceration, with suppuration and profuse discharge, great constitutional disturbance showing itself in many instances, causing anxiety in many cases of children as to the result.

The usual care and vigilance has been observed in regard to cleanliness and disinfection. I trust that Beaufort may sustain her well deserved reputation for health.

Very respectfully,

H. M. STUART, M. D.,
Chairman Board of Health, Beaufort, S. C.

WALTERBORO, S. C., September 6th, 1882.

DR. HENRY D. FRASER, *Secretary Executive Committee State Board of Health, Charleston, S. C.*

DEAR DOCTOR: Up to a very recent time this sub-district has been peculiarly exempt from diseases of a local origin. Within the last three weeks we have had the usual number of cases of bilious derangement and a large number of cases of conjunctivitis. Early last Winter this Committee became alarmed upon the subject of smallpox, and vaccination was generally resorted to. In the Spring of the present year several cases of whooping cough were brought here and it has prevailed to a considerable extent ever since. The disease has been of a mild type and no deaths have resulted. The mildness of this epidemic of whooping cough may be due to the modifying influence of vaccination, generally resorted to here of late.

Yours very respectfully,

CHARLES WITSELL, M. D.,
Chairman Sub-Board of Health, Walterboro, S. C.

BARNWELL C. H., S. C., September 4th, 1882.

HENRY D. FRASER, M. D.

DEAR SIR: As Chairman of Board of Health for Barnwell village, I ask permission, as you request, herein to make report. We have not been so severely scourged with ophthalmia and malarial fever since 1867. Our village has been comparatively exempt, but its surroundings have suffered fearfully. I think it safe to say that one in three of the population, including children and adults, white and colored, have suffered from the aforementioned diseases. The physicians have called the sore eyes catarrhal ophthalmia, but the disease may be due as much to malaria as catarrh. It is true that some of the cases of ophthalmia were not attended by fever, (at least the fever was not detected,) but for the most part they went hand in hand. Some who took a few grains of quinine as prophylactic against the fever escaped sore eyes also. The treatment instituted for the fever relieved the sore eyes also. For several seasons we have had the two diseases associated and are watching the association with some interest. With us malarial fever must continue to hold "high carnival" until a more thorough system of drainage is established. During the war the ditches filled up and have not been reopened. Farmers are fast learning that drainage is conducive to remunerative crops, and with the improvement in crops will come improvement in health. To this end let physicians and farmers work.

Very respectfully yours,

J. J. O'BANNON.

BLACKVILLE, S. C., September 5, 1882.

Dr. H. D. FRASER, *Secretary Executive Committee*
State Board of Health.

DEAR SIR: In making our annual report from this health district, would state an entire immunity from any endemic or epidemic to the middle of Summer, when a malarial fever of a remittent and intermittent type prevailed up to date, which is unprecedented in the history of this section, and which has been unaccounted for by any rational solution. The Spring has been comparatively dry and all malarial agencies removed which through the usual atmospheric influences are calculated to produce it. The fever, though of severe type with severe head troubles, has yielded to treatment, and very few deaths so far resulting. Would mention the report of one case of diphtheria and death which occurred yesterday. The proper hygienic measures are being practiced to prevent a further spread of the disease. Very few vaccinations com-

paratively have been made, from an indisposition of people to risk a sore arm. When the disease was at a distance the medical members of the Board offered to vaccinate at a cost to cover expense of vaccine and but few availed themselves of the offer.

Very truly,

L. C. STEPHENS, M. D.,
Chairman Sub-Board of Health.

YORKVILLE, S. C., September 8th, 1882.

To the Secretary of the Executive Committee of the
State Board of Health, Charleston.

GENTLEMEN: The sub-Board of Health for York County herewith submit the following report:

The physicians of this County having been furnished in the early part of the year, through the Executive Committee of the State Board of Health, with a limited supply of vaccine virus, earnestly engaged in the work of vaccinating first the children of this County, and from these much healthy virus was obtained and distributed among other physicians, so that by the combined work of the whole much good has been effected in this way for the security and protection of all those upon whom vaccination was practiced.

Although many subjects were vaccinated carefully and skillfully, still many more remain unvaccinated, because of individual objections to the theory and practice of vaccinating as well as indifference to their own individual welfare in the future.

It is to be hoped, however, that a better and more thorough education on this subject will be infused among the people, and thus in time remove all such doubts, fears and trivial objections, or that some legislative enactment on this subject will so effect the great object in view that every man, woman and child shall be vaccinated by public authority, and thus secure not only to individuals, but to whole communities and the State, an exemption from this terrible malady.

By the aid of the municipal authorities of this town, the sub-Board of Health has been enabled to make many advances in adopting hygienic measures for the health and comfort of its citizens.

The Board find, with a community of intelligent and unbiassed citizens, no difficulty in influencing them and engaging their personal aid and counsel in adopting hygienic measures looking to the general health of all the people. But with a class of people now among us *politically styled "fourteenth amendments,"* to whose skins filth and dirt are a source of comfort and delight, and to whose olfactories obnoxious vapors are

grateful and refreshing, they find it difficult to combat the ignorance and prejudice of such people on this subject so far as to enable them to effect their purpose in a satisfactory manner. They deem it their duty, however, to their community to continue to labor along this line and carry on the work as far as their influence, personal or otherwise, or other means will enable them to proceed.

The important practical, efficient hygienic measure to be adopted in this County, and which should engage the earliest attention and most earnest consideration of the proper authorities, and all others who desire to promote the welfare and prosperity of this community, is *County drainage.*

In this County a vast number of acres of low flat lands, along the large creeks and rivulets which flow sluggishly along its Eastern section, is covered with water and slush for nearly one-fourth of the year. This character of land contains decayed and decaying vegetable matters in large quantities—a *fit nidus* for "bacteria or baccillæ"—which when exposed to the rays of a scorching sun during the Summer and evaporated to dryness invariably beget in the Fall months intermittent and remittent fevers, from which the people in this County are now suffering extensively.

The Board cannot by reason or persuasion induce the settlers on these lands to attempt to drain the same in a thorough manner, because they are physically unable to do the work themselves and their finances are "too thin" to pay others to do the work for them. This all-important work calls for higher and more direct authority than that with which this Board is invested. It is their solemn conviction that the Legislature should, so soon as the work on the canal is completed, use the same character of labor to do all the necessary draining in every County in the State, and continue annually to do so until the whole work of drainage is fully and satisfactorily completed.

For this service by the State convicts, the people of this County are now ready and more than willing to pay a large annual percentage on the debt accruing upon the work done on the lands belonging to each of them—payments to be made in annual installments and collected with the taxes due the County, and continued until the work is completed in full and all installments paid in full for the same. The convict labor employed in this manner would prove not only practical but also a safe and profitable investment, amply compensating the State for the work done, and, high above all other considerations, securing to the people health, comfort and profit, which should ever be regarded and maintained as the highest, noblest objects of all governments.

Respectfully submitted.

J. R. BRATTON, M. D.
A. J. BARRON, M. D.
COL. WM. McCORKLE.

SUMTER, S. C., September 11th, 1882.

HENRY D. FRASER, *M. D., Secretary Executive Committee State Board of Health.*

DEAR SIR: The health of Sumter during the past year has been remarkably good. We have been free from epidemics of all kinds, with the exception of muco-purulent conjunctivitis, which has prevailed to an extent unknown before in this community.

Yours very respectfully,

JNO. S. HUGHSON, M. D.,
Chairman of the Sub-Board of Health of Sumter.

CAMDEN, S. C., September 11, 1882.

HENRY D. FRASER, *M. D., Secretary Executive Committee State Board of Health.*

DEAR SIR: Two or three years ago our Town Council requested the physicians of Camden to act as a local Board of Health, which they consented to do, but were never regularly organized. About the same time, or perhaps subsequently, Dr. A. W. Burnet and myself were requested by you, as Secretary of the Executive Committee of the State Board of Health, to act with one layman as a sub-Board of Health, but we also failed to organize. Last week the physicians of Camden met and organized a sub-Board of Health, and I will now endeavor to make a brief report.

Since about 1869 our municipal authorities have exhibited a very commendable public spirit and diligence in having our ditches and drains thoroughly cleaned in the Spring and early part of the Summer. To this wise precaution I attribute the present diminished prevalence of malarial diseases. In the lower portion of the town, which is flat and moist, we still have some remittent and intermittent fevers; but there has not been a case of congestive fever in several years. Whereas previous to the time mentioned it was of frequent occurrence and often fatal.

During the latter part of last Summer and in the Fall (1881) typhoid fever prevailed to an unusual extent in some portions of the County and also to some extent in town, and was attended by considerable fatality. A few cases have been recently reported, both in the town and County, but it presents a much milder type than that of last season.

Last Winter and Spring, I think, were productive of fewer cases of the respiratory organs than usual. There were some scattering cases of pneumonia and croup, with, perhaps, the usual number of cases of the milder catarrhal affections.

In the early part of last January, acting upon the timely and judicious admonition of the Executive Committee of the State Board of Health, the physicians of the town met and passed resolutions urging upon the people of the town and County the vital importance of immediate and general vaccination, in view of the impending danger of an epidemic of smallpox. A small supply of non-humanized virus was duly received from the Secretary of the Executive Committee. The physicians also ordered an additional supply, both of the humanized and bovine virus. But such is the extreme apathy of our people that only a comparatively small proportion of them availed themselves of the protection thus offered. And, as has been heretofore suggested, general vaccination can only be accomplished by legislation making it compulsory.

With last Spring came the usual prevalence of diseases of the digestive system, such as diarrhœa and dysentery, but they readily yielded to the ordinary treatment.

Notwithstanding the excessive rains of the Summer just ended we have enjoyed a remarkable exemption from malarial or other diseases of a severe type.

Since about the first of July up to the present writing there has been a widespread epidemic of conjunctivitis, both among children and adults. Its usual duration has not been more than a week or ten days. In some of the severer cases it has continued two or three weeks, the inflammation subsiding and then increasing again.

This report is necessarily meagre and imperfect, as up to this time we have preserved no notes or records of practice with a view to making an annual report. We hope, however, to be able to make our next report more complete and thus to extend our aid to the State Board in their zealous and benevolent efforts at sanitary reform.

Respectfully submitted.

A. A. MOORE, M. D.,
Chairman of Sub-Board of Health of Kershaw.

DUE WEST, September 15, 1882.

HENRY D. FRASER, M. D.

DEAR SIR: In compliance with direction from State Board, we, the sub-Board of Due West, would beg leave to make our annual report.

In the earlier part of the present year we had rumors as to the prevalence of smallpox in certain localities of the United States. Naturally our people were very apprehensive as to its introduction in our midst. Fortunately we escaped, and incidentally it enured to our benefit in inducing our people to resort to the benefit of *vaccination*.

For the last two months our section has been visited with the prevailing and widespread epidemic ophthalmia. But few families have escaped, attacking adults as well as children—the latter perhaps suffering more. The usual remedies were prescribed, together with general regimen. The affection would subside after an interval of a few days.

The prevalence of intermittent and remittent fevers has occurred as usual, especially along and in the vicinity of our streams; has responded promptly to the use of the usual remedies.

Diphtheria has prevailed latterly East of us with considerable fatality, taking number of cases in consideration. We have had a few sporadic cases in our midst. Yesterday one of our physicians reports that a case has appeared in the corporate limits of our village.

In conclusion, we may safely say that in general our people have enjoyed the inestimable blessing of health. Besides, Providence has showered upon us bounteous harvests, "filling our hearts with food and gladness."

J. L. MILLER,
Chairman.

MOULTRIEVILLE, S. C., September 12, 1882.

Dr. H. D. FRASER, *Secretary State Board of Health.*

DEAR SIR: In response to your circular the sub-Board of Health would respectfully report:

During the past season this locality has been greatly favored. At no time previous has there been less sickness than we have experienced this Summer. In the early part whooping cough prevailed generally, but in most cases of a mild type. Some rumors existed of diphtheria, but, with the exception of one case, if it did really occur, the termination was favorable and was not brought to the notice of this Board. One case of malarial fever occurred on Back street in the same house where one was observed in the Autumn of 1880. No others are known to this Board.

This town has scarcely any drainage, the shifting nature of the land almost precluding the possibility of giving an effectual one. What is a pond this season is likely to become a hillock the next one. The peculiarity of this soil is that it is all sand, nothing but sand, until the depth of eight to ten feet is attained, when mud is found. The consequence is, though water accumulates in pretty large quantities after heavy rains, it remains visible but a short time, being taken up by the porous earth and the surface dried quickly by the high winds which invariably occur after a heavy fall of water.

After a careful observation of five years, we conclude that a pond of water allowed to remain untouched does not endanger the health of this town as it would in localities where a hard subsoil is found at the depth of one, two or three feet; and if the generation of numberless mosquitoes be excepted, this undrained soil so far has occasioned no injury to the welfare of this town.

The Back Beach street, where we find malarial fever almost every season, is now better drained than the Eastern part of the island, where we never see it. The cause of fever occurring continuously on the Back Beach your Board cannot correctly ascertain, but we must rest satisfied with the stated fact that "it has always been so."

All of which is respectfully submitted.

ALFRED RAOUL, M. D.,
Chairman Moultrieville Sub-Board.

WINNSBORO, September 14, 1882.

Dr. H. D. FRASER, *Secretary.*

DEAR SIR: In order to be able to make a satisfactory report of the health of our County, and also to induce the physicians to take an interest in the annual reports of the "State Board of Health," I addressed the following communication to eighteen practicing physicians of the County:

"DEAR DOCTOR: I am to make a report to the State Board of Health upon the sanitary condition of Fairfield County. Please inform me as to the health of your section. What diseases have prevailed—whether or not any epidemic or endemic diseases—and with what degree of mortality."

I have received ten responses. Instead of compiling a report from these responses, as I first intended to do, I will give the statements as received.

Dr. R. H. Edmunds says: "In reply to yours of the 23d inst., I beg to say as to the health of this locality, it has never been better. No epidemic save that of sore eyes. A few isolated cases of typhoid fever. No malaria at this point. Have not seen a case of bilious fever in ten years, and but few cases of intermittent. A few deaths this year from old age and cholera infantum. I have noticed uterine diseases are on the increase yearly—mostly with negroes."

Dr. R. B. Hanahan says : "There has been no epidemic of any kind prevalent during this season that I am aware of. The only diseases that I have met with are the usual diseases of the season and the climatic diseases which generally prevail during the Fall months. I can give no ratio of mortality, for I keep no record of my deaths, and without overhauling my book can form no idea of the number of cases treated."

Dr. J. B. Davis says : "Your letter of 23d to hand. This section of Fairfield has been rather more healthy than last year. The diseases most prevalent: laryngitis, diarrhœa, dyspepsia, neuralgia, intermittent fever, and recently typho-malarial. No epidemic or endemic diseases of consequence. Very few deaths except from old age, and occasionally a negro dies from having a rope too tight around the neck or a severe blow on the head from a black jack club. Physicians are troubled by anæmia, caused by (some say) the short crops last year, or, I think, the poverty and disinclination of people to pay doctors' bills."

Dr. Ira Smith says: "Yours of 23d instant has just come to hand. In reply, I would say that our section has been free from any epidemic, unless we include sore eyes in that class. We have some intermittent and occasionally a case of remittent of a malignant type."

Dr. Henry Gibson says: "Yours of the 25th instant received. In reply, I will state the health of this section has been very good up to the first of August. During the latter Winter and first Spring months catarrhal fever (with scattering cases of pneumonia) prevailed epidemically, the cases being generally mild. The mortality was comparatively light. There has been also dysentery prevailing endemically, with no deaths that came under my observation. The above, with bowel derangements among children, (ever to be expected in the healthiest sections) was all I had to contend with up to August. I have made no remark in regard to lung diseases among the colored population. I have seen more cases during the last twelve months than I saw from 1850 to 1865, inclusive. The disease runs its course rapidly, and three-fourths of the deaths amongst the adults have been caused by lung diseases, (I mean consumption,) and the male bears the largest portion. Why is this so? Chills, with scattering cases of bilious fever, have been prevailing since the 1st of August. The disease seems confined pretty much to water courses; not troublesome to manage. The most interesting epidemic prevailing at this time is *babies;* they are making their appearance rapidly, and will continue so to do for some time, as the supply seems to be inexhaustible."

Dr. H. W. Owens says: "In reply to your request of August 22d, concerning the health of my section, the prevailing diseases here at present are diphtheria and bilious fever. Diphtheria seems to be endemic. The percentage of mortality is not very great—12 per cent. Billious continues and is very prevalent; mortality 2 per cent. Intermittent is also very prevalent. I have lost none this season."

Dr. J. A. Scott says: "In compliance with your request as to the sanitary condition of my section, I will answer by saying at this writing there is an unusual prevalence of malarial fevers, principally of the intermittent and remittent varieties, unusually intractable, with a tendency to congestion. Last Spring there were some severe cases of bronchitis, but not much pneumonia; also some dysentery then, but it did not amount to an epidemic. Ophthalmia prevails here now. In a circumference of six or eight miles I have had nine cases of pulmonary consumption this year, and eight deaths out of the nine; all confined to the negroes. I can't account for it only on hygienic grounds."

Dr. T. B. McKinstry says: "In reply to your circular, I report the sanitary condition of the County as very good. No epidemic diseases, unless sore eyes can be called such; they are very prevalent. Prevalent diseases: Intermittent fever, rheumatism and dysentery. No mortality in my practice."

Dr. M. R. Scruggs says: "For several months there has been a great deal of sickness. Bilious fever very common; mortality five per cent. Intermittents of all types prevail. No epidemic."

Dr. E. W. Aiken says: "DEAR DOCTOR: In response to your request to lend you a little aid in the formation of your report to the State Board of Health, I send you this brief sketch of my practice for the last twelve months.

"During the Winter of 1881, and January, February and March of the present year, I treated several cases of pneumonia and typhoid fever with very satisfactory results; mortality very small.

"The first part of 1882 I met quite a number of cases of influenza, which, you remember, at the time was an epidemic throughout the country.

"A good many of these cases that came under my observation were subjects of fever of no small degree, accompanied by headache, violent sneezing and snuffling and general bodily discomfort.

"During the Summer months, in my practice, I met with no disease or diseases exhibiting any symptoms affording any signs or prevailing to such an extent that it would prove interesting to mention them.

"For the last ninety days I have found the County more unhealthy than ever I knew it before "Catarrhal ophthalmia" and "granular conjunctivitis" are universal afflictions, tonsilitis quite frequent, diarrhœa prevailing, and chills and intermittent fever nearly in every home, and especially is this the case in what is known as the Jackson Creek section, a portion of the County about five miles West of town, and occupying an area about five miles square.

"This fever in question is of the tertian variety nearly in every instance and endemic in its character, for it does not seem to depend upon the '*constitutio aeris*' solely, but *that it is* the never-failing offspring of that particular locality. For many a generation has it been an expected though a sickening and uninvited guest. Though its mode of attack, duration and cessation are not markedly different from intermittent fever elsewhere, still, so regular and persistent has it been in its annual visits, that the people think it is a fever found nowhere else—that it specially belongs to our County. If this is not the case, they have at least given *us* a new name to the list of fevers, for every one speaks of it *only* as Jackson's Creek fever.

"Let me make brief reference to one more disease. I do not believe there has been a month this year that I have not seen among the negroes two or three wretched victims to relentless 'Phthisis Pulmonalis.'

"In our County, as all over the Southern country, this malady is becoming more and more frequent among the blacks. The causes for the wonderful spread of this fatal affliction in a race who prior to the days of freedom scarcely knew of such a disease are easily traced out.

"I wish I had time to write at length upon them. Freedom forced the negroes to select their homes, and many have done so to their eternal sorrow. With no wisdom of their own and no master to advise and direct, they have chosen most unhealthy localities—spots and places where miasma and germs prolific for disease luxuriate. Every filthy creek bottom has its darky's cabin, filled with naked, scrawny, scrofulous, filthy, half-fed offspring, fit and waiting subjects for consumption's ghastly hand, and she is daily taking advantage of the material at her command, for year by year thousands lay down the shovel and the hoe and pass over their checks for 'that country where the poor darkies go.'

"E. W. AIKEN."

These reports, though meagre, give a fair idea of the health of our County. Since receiving them I hear of some diphtheria and deaths in the Northwest portion of the County.

I would suggest again, as I did in my last report, that the Legislature take some action for the relief of the poor who are not in the poor houses. How would it do to have a hospital at each County seat? A tax

of a fraction of a mill would be sufficient to establish a hospital at every court house, and the physicians of the town would willingly attend the cases brought to the hospital. It would lessen the labors they have to perform, and be attended with better results. Let them be called *County cottage hospitals*, and then the name would not convey the idea of great expense. I would suggest that the State Board think seriously of this matter, and if it meet with their approbation, to press it upon the Legislature.

With respect,

T. T. ROBERTSON,
Chairman Sub Board of Health, Fairfield County, S. C.

GEORGETOWN, S. C., September 15th, 1882.

DR. H. D. FRASER.

DEAR SIR: In accordance with your request, I will report that the sanitary condition of Georgetown for the past year has been exceptionally good. The year 1881 was almost unprecedented for its drought, which seems to have an important bearing on our usual climatic fevers, for there was a remarkable dearth of the usual Autumnal malarial diseases. This Fall I find from about the 15th of August to the 1st of September the prevalence has been very great and the amount of rainfall unusual. The fevers, while they have existed, have been very general throughout the low country of South Carolina, but have been quite amenable to treatment in Georgetown. Thus far I have seen but one case of hemorrhaic malarial fever in a subject who has taken for the fourth time, and, while the disease was distinctly marked, the termination reminded me of certain cases of yellow fever, there being immense swelling of the parotids with subsequent suppuration in isolated abcesses. The freedom from other diseases has been marked, and I have no epidemics or contagious diseases to report. I have observed that the negro race has shown a susceptibility to malarial fever that has heretofore never existed. This especially applies to the negroes in the town. Their modes of living and imitation of the Caucasian race seem to ally them to the same diseases, while I observe that the field hands exposed continually to the rice fields show a marked immunity to the effect of climate. Much more attention has been given to sanitation in the corporate limits of the town, and this may have some effect in rendering our malarial diseases milder, if they are not prevented.

Yours truly,

T. P. BAILEY, M. D.

WALHALLA, S. C., September 15th, 1882.

H. D. FRASER, *M. D., Secretary Executive Committee State Board of Health, Charleston, S. C.*

DEAR SIR: In making my annual report, I would most respectfully say that the sanitary condition of Walhalla is good. We have had no epidemic of any character during the past twelve months. That for the past three months Walhalla has been crowded with Summer visitors, but no sickness has prevailed among them, except in cases which came here sick.

Respectfully submitted.

L. B. JOHNSON, M. D.,
Chairman Sub-Board of Health for Walhalla.

AIKEN, S. C., September 15, 1882.

H. D. FRASER, ESQ., *M. D., Secretary Executive Committee State Board of Health, Charleston, S. C.*

DEAR SIR: Since my last report of September 15th, 1881, our town has been free from epidemics of any kind, and on the whole we have had a remarkably healthy year. Notwithstanding the fact that our neighboring towns have been visited during the Summer with a severe form of malarial fever, we have been entirely free from the same. During the Fall and the first part of the Winter we had several cases of a very malignant form of diphtheria, but it was confined to one portion of the town and did not become epidemic. The cause of the disease is not certainly known, but it has been suggested that the cause might have been a neighboring church-yard. There being at this place a very sandy and porous soil, the gases might have escaped through the same into an open dry well and from these communicated to the surrounding houses. All of the cases were just around this church-yard, and we had no more cases after the well had been filled. During the Winter there was one case of scarlatina brought to the place, but, with strict confinement and isolation, it did not spread. So, also, with a case of measles. There has been in the last few months a few cases of whooping cough, but it did not spread beyond the houses to which it was brought. Our town is clean, and the streets well drained, so that in a sanitary point of view we have nothing to complain of. Many families from Augusta, Ga., have made their home here this Summer, and Aiken is fast becoming a Summer as well as a Winter resort, as will be attested by many of her boarding houses and one hotel being quite full for several months past.

We have had a remarkably cool and pleasant Summer, so that those who have gone to the mountains and springs have had very little advan-

tage over us, there being but few days that we really suffered from the heat. Although through the County there has been an abundance of rainfall to make the finest crops that there has been in years past, yet there has been during the Summer very little rain in the town—drying up gardens and causing cisterns to fail. Perhaps this may be the cause of our comparative freedom from many of the Summer complaints. There was *very little* rain from June until the last of August.

This station is now provided with a full set of first class meteorological instruments, but, owing to the late arrival of some of them, and to sickness in the family of the Chairman of the sub-Board, the reports for the year are more or less imperfect. Mr. H. W. Ravenel, who kindly took charge of the instruments during the absence of the Chairman, has recorded the observations since July 1st and has forwarded the usual report to your office.

The clearness of the atmosphere at Aiken, and the unusually large proportion of fair weather here, has caused the Prussian Government to select this place as one of the two most eligible points in the United States for the observation of the transit of Venus.

The above report is very respectfully submitted to your Board.

T. G. CROFT, M. D.

UNION, S. C., September 1, 1882.

Dr. H. D. FRASER, *Secretary of State Board of Health.*

DEAR SIR: In compliance with instructions of the Executive Committee of the State Board of Health, the sub-Board of Union County beg leave to report:

Union County lies between Broad and Enoree Rivers and is of an undulating character, and intersected by numerous small streams. With but few exceptions, the beds of the streams are of a sandy nature.

There have been no morbific influences in this district producing an epidemic which could in any way be controlled by Health Boards.

During the Winter months diseases of the respiratory system, together with rheumatism, were less than usual.

The only epidemics we note were influenza, measles, purulent ophthalmia, roseola and mumps. During the Summer months we had but little diarrhœa and dysentery, and that of a mild type.

The only disease that can be termed endemic is of the malarial order in its various forms, intermittent, remittent and continued. The two former diseases are prevailing, and have been during the month of August, to an unusual extent and severity. Typhoid fever in certain localities seems to be infectious, if not contagious. To give an example:

Mrs. B. and her four children and Mrs. B's mother now dead, and her last son at this date, September 4, lying in the last stage of the disease, together with two negroes on the same place. All died in the space of three weeks. No cause can be given. Vaccination has been practiced to some extent, but would be to perfection should a few cases of small-pox be imported. In conclusion we are glad to state that much more interest has been manifested in the sanitation of our town, and the people are generally healthy, with few exceptions of intermittent fever.

Very respectfully submitted.

H. S. BEATY, M. D.,
Chairman Union Sub-Board.

CHERAW, CHESTERFIELD COUNTY, September 1, 1882.

During the Spring and early Summer months there prevailed an epidemic of dysentery throughout the greater portion of Chesterfield County. In a large majority of those attacked by the disease there was more or less congestion of the postal circle. Most of the cases, however, were mild, yielding readily to treatment. There was also an accompaniment of a low form of continued fever, with no tendency to typhoid. This disease was confined almost entirely to adults; very few cases among children under twelve years of age.

Bilious, intermittent, remittent and continued fevers have been unusually prevalent during the months of July, August and September. Few localities have up to the present date escaped. In the pine barrens, more popularly known as "Sand Hills," where the disease was never before known, except in a sporadic form, it has prevailed this season as an epidemic, many of the cases being of a violent, malignant nature, accompanied with distressing cerebral troubles and in many instances terminating fatally. What to attribute this fact to we are unable to say. The Summer has been cool and showery, and there has been a superabundance of all kinds of fruit. There has been no change in the habits of these people—the "Sand Hillers." The inhabitants of the Sand Hills are the most conservative people in the world; they live now just as they did in 1782.

Typhoid fever has also made its appearance where it was never known to prevail before. The town of Cheraw, situated on a high sandy bluff, not a fourth of a mile distant from the Pee Dee River and one hundred feet above the bed of the river, has always been well supplied with bilious, intermittent and remittent fevers, with now and then a few cases of continued fever. Within the past two years cases of fever assuming a continued form have become more numerous. During the last year

there have been in the town of Cheraw six well marked cases of typhoid fever, two of which terminated fatally. These are the first cases of typhoid fever ever known in the town of Cheraw. There has been little if any change in the habits of inhabitants of the town, for they are almost as conservative as those of the Sand Hills. To what to attribute these freaks of disease, your Committee are unable to say. Five of the six cases of typhoid fever that have appeared in the town of Cheraw were in one street within a stone's throw of each other, and in a locality in which there is usually very little intermittent and remittent fever. The members of the State Board of Health, aided by the town Health Committee, have made a thorough examination of the soil, water and habits of the residents of that street, but have been unable to discover any cause that could produce typhoid fever there rather than in other portions of the town.

Diphtheria has prevailed quite extensively for the past six weeks throughout the County of Chesterfield. Most of the cases thus far reported are of a mild type. Those that have terminated fatally have been in children who were very feeble or improperly cared for. A few cases have ended fatally by the disease having invaded the larynx. Not a single cases of diphtheretic palsy has come to the knowledge of the Committee. No smallpox has been seen in Chesterfield County for more than six or eight years. Within the past twelve months more than five hundred persons, mostly children, have been vaccinated. Where free vaccination was offered by the Committee—matter being furnished by the State Board of Health—many parents refused positively to have their child vaccinated on any terms. No reason was assigned other than a foolish groundless prejudice. Such ignorance being beyond the reach of reason and argument, your Committee would respectfully suggest compulsory vaccination. Due diligence has been exercised to see that no drugs of a poisonous nature are kept in the stores.

All of which is respectfully submitted.

C. KNOBLOCK,
H. D. MALLOY,
Sub-Committee.

PORT ROYAL, September 23, 1882.

Mr. HENRY D. FRAZER, *Secretary State Board of Health, Charleston, S. C.*

DEAR SIR: I will state that the health of this town thus far this Summer has been remarkably good. I am not advised of a single case of sickness here at present. Early in the Summer we had the town put in

good order, having sinks and other foul places thoroughly cleaned and quick lime freely used. We have endeavored to keep the place clean during the Summer, and believe that this, with the free use of lime, has kept us so free from sickness.

Yours respectfully,

JOHN RICH,
Chairman Board of Health.

AN ACT TO REGULATE THE LICENSING OF PHYSICIANS AND SURGEONS.

SECTION 1. *Be it enacted* by the Senate and House of Representatives of the State of South Carolina, now met and sitting in General Assembly, and by the authority of the same, A person shall not practice physic or surgery for compensation within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do pursuant to the laws in force at the time of his authorization or is hereafter authorized to do so by subsequent Sections of this Act.

SEC. 2. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the first day of June, 1882, and every person hereafter duly authorized to practice physic and surgery shall, before commencing to practice, register in the Clerk's office of the County where he is practicing or intends to commence the practice of physic and surgery, in a book to be kept by said Clerk, his name, residence and place of birth, together with his authority for so practicing physic and surgery, as is prescribed in this Act. The person so registering shall subscribe, and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same and by whom granted, which if willfully false shall subject the affiant to conviction and punishment for perjury. The County Clerk to receive a fee of (25) twenty-five cents for such registration, to be paid by the person so registering.

SEC. 3. A person who violates either of the two preceding Sections of this Act, or who shall practice physic or surgery under cover of a diploma illegally obtained, is guilty of a misdemeanor, punishable by fine not less than ($50) fifty dollars, nor more than ($200) two hundred dollars for the first offense, and each subsequent offense by a fine not less than ($100) one hundred dollars, or by imprisonment for not less than (30) thirty days nor more than (90) ninety days, or both. The fine when collected shall be paid, the one-half to the person or corporation making the complaint, the other half into the County treasury.

SEC. 4. A person coming to the State may be licensed to practice physic or surgery, or either, within the State in the following manner: If he has a diploma conferring upon him the degree of Doctor of Medicine, issued by an incorporated university, medical college or medical school without the State, he shall exhibit the same to the Faculty of some incorporated medical college, or the Medical Board of the State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician and surgeon as the said medical college or Medical Board may require. If his diploma and qualifications are approved by them, then they shall endorse said

diploma, which shall make it, for the purpose of his license to practice medicine and surgery within this State, the same as if issued by them. This applicant shall pay to the Dean of said Faculty or Medical Board the sum of twenty ($20) dollars for such examination and endorsement. The endorsed diploma shall authorize him to practice physic and surgery within the State upon his complying with the provisions of Section two (2) of this Act.

SEC. 5. The Medical Board referred to in the previous Sections shall be composed of the physicians and surgeons constituting the local Board of Health in various Counties of the State—the local Board of Health for each County having jurisdiction over all matters contrary to this Act occurring within its borders. The money paid by the applicant to the Dean of said medical college or the Medical Board shall be given to the Treasurer of the State Board of Health, to be used for sanitary purposes.

SEC. 6. The degree of Doctor of Medicine lawfully conferred by any medical college or university in this State shall be a license to practice physic and surgery within the State, after the person to whom it is granted shall have complied with Section two (2) of this Act.

SEC. 7. Nothing in this Act shall apply to commissioned medical officers of the United States army or navy or the United States Marine Hospital service.

SEC. 8. All Acts or parts of Acts inconsistent with this Act are hereby repealed.

Approved the 17th day of December, A. D. 1881.

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STATE OF SOUTH CAROLINA,
OFFICE OF SECRETARY OF STATE.

I, R. M. Sims, Secretary of State, do hereby certify that the above is a true copy of an Act on file in this office.

Witness my hand and the Great Seal of the State at Columbia, this 1st February, 1882.

R. M. SIMS, Secretary of State.

LICENSED PHYSICIANS.

Names and Postoffice of those Registered in the Offices of the Clerks of Court of the Various Counties of the State of South Carolina.

ABBEVILLE.

Blake, T. S.....Ninety-Six.
Bozeman, J. J.....Ninety-Six.
Calhoun, John W.....Ninety-Six.
Calhoun, E. R.....Greenwood.
Calhoun, T. L.....Abbeville.
Edwards, E. H.....Due West.
Frierson, E. C.....Antreville.
Gibert.....Bordeaux.
Hawthorne, O. P.....Due West.
Hester.....Calhoun's Mills.
Hill, Lod T.....Abbevile.
Gary, F. F.....Cokesbury.
Horton, O. R.....Lowndesville.
Jones, W. T.....Hodges.
Jones, W. Townes.....Donaldsville.
Kennedy, J. W.....Bradley's Station.
Latimer, B. M.....Donaldsville.
Maxwell, J. C.....Greenwood.
Mitchell, Geo. W.....Mapleton.
Milwee, W. B.....Greenwood.
Miller, J. L.....Due West.
Mabry, Thos. J.....Abbeville.
Pressley, Jos. L.....Lulah.
Reed, G. B.....Donaldsville.
Robinson, John A.....Due West.
Speer, A. J.....Lowndesville.
Steifle.....Antreville.
Traylor, M. A.....McCormick.
Winstock, I. A.....Abbeville.
Wideman, J. W.....Due West.
Bell, J. H.....Antreville.
Connor, G. L.....Cokesbury.
Kellar, J. W.....Abbeville.

Link, W. E.....Wilmington.
Neel, Jas. D.....Troy.
Johnson, J. G.....Lowndesville.
Parker, Edwin.....Abbeville.
Thomas, J. W.....Abbeville.
Taggart, M. C.....Greenwood.
Taggart, W. M.....Monterey.
Yates, Andrew.....Cokesbury.

AIKEN.

Abney, John B.....Langley.
Boatwright, U. M.....Montmorenci.
Bowers, John D.....Jackson, Port Royal Railroad.
Brabham, R. C.....Ellenton.
Butler, P. M.....Hamburg.
Cannon, W. S.....Ellenton.
Capers, F. T.....Aiken.
Cardwell, John.....Vaucluse.
Croft, T. G.....Aiken.
Durham, J. D.....Riste's Store.
Durham, W. D.....Riste's Store.
Edwards, T. P.....Graniteville.
Eve, P. H.....Beech Island.
Eve, W. R.....Beech Island.
Geddings, W. H.....Aiken.
Galphin, John M.....Beech Island.
Hammond, E. S.....Beech Island.
Lowman, O. R.....Beulah.
Lowman, J. W.....Beulah.
Lee, J. L.....Langley.
Morgan, J. H.....Witt's Mill, Orangeburg County.
Pitts, M. M.....Ridge Spring.
Rockwell, P. G.....Aiken.
Russ, Simpson.....Graniteville.
Sims, W. S.....Vaucluse.
Salley, O. B.....Langley.
Samuels, W. B.....Graniteville.
Stallings, James.....Sunnyside.
Woodward, J. M.....Montmorenci.
Wyman, B. F.....Aiken.

ANDERSON.

Barnes, C. V.....Storeville.
Brown, E. M.....Belton.
Brown, James B.....Townville.
Broyles, O. R.....Anderson City.
Brown, B. F.....Williamston.
Cuthbert, Thomas L.....Pendleton.
Cook, A. G.....Moffattsville.
Cheshire, R. S.....Honea Path.
Clinkscales, W. A.....Moffattsville.
Carpenter, F. G.....Williamston.
Cook, John T.....Rock Mills.
Divver, R. F.....Anderson C. H.
Duckett, J. P.....Anderson C. H.
Duckworth, J. G.....Garvin.
Elrod, H. H.....Centreville.
Epting, H. J.....Williamston.
Haynie, W. L.....Varennes Township.
Hutto, W. D.....Williamston.
Heller, S. R.....Townville.
Hudgens, T. A.....Honea Path.
Jenkins, W. L.....Pendleton.
Milford, Wm. J.....Hall Township.
Nardin, W. H.....Anderson City.
Orr, Samuel M..... " "
Pickens, Thomas J.....Pendleton.
Parker, M. C.....Honea Path.
Pelzer, George S.....Pelzer.
Reid, Robert A.....Anderson City.
Sharpe, M. L..... " "
Sharp, W. K.....Townville.
Sherard, J. W.....Moffattsville.
Sloan, P. H. E.....Pendleton.
Smith, R. F.....Equality.
Scudday, H. H.....Varennes.
Thompson, A. E.....Savannah Township.
Thompson, R. E.....Varennes Township.
Thompson, M. A.....Hall Township.
Todd, W. H.....Pendleton.
Wilhite, P. A.....Anderson City.
Wilhite, J. O..... " "
Wilson, W. W.....Belton.

Wilson, John.....Belton.
Witherspoon, R. G.....Holland's Store.
Watson, D. S.....Varennes.

BARNWELL.

Bailey, A. W.....Ellenton.
Black, J. B., Sr.....Midway.
Brooker, Laden.....Williston.
Baggot, J. F.....Bamberg.
Bellinger, Martin.....Hattieville.
Black, J. B., Jr.....Bamberg.
Davant, Charles.....Allendale.
Erwin, C. W.....“
Erwin, J. D., Jr.....“
Faust, C. J.....Graham's.
Frederick, E. J.....“
Holmes, W. F.....Barnwell C. H.
Hay, L. S.....Allendale.
Hay, F. J.....Baldoc.
Kirkland, N. F., Jr.....Allendale.
Kearse, H. W.....Buford's Bridge.
Lockwood, Jos. D.....Folk's Store.
Laffitte, T. S.....Allendale.
Mobley, S. G.....Ellenton.
Morrall, G. W.....Millettsville.
Miller, J. C.....Appleton.
Nance, W. V.....Robbins.
O'Bannon, J. J.....Barnwell C. H.
Ogilvie, J. W.....Allendale.
Ott, J. P.....Bamberg.
Rice, W. B.....“
Peeples, B. F.....Blackville.
Price, J. H.....“
Patterson, A. B.....Barnwell C. H.
Stephens, L. C.....Blackville.
Storne, Alex.....“
Stokes, P. F.....“
Steedly, W. B.....Midway.
Stoney, J. S.....Allendale.
Smith, J. W.....Williston.
Smith, W. C.....“
Tindal, S. H.....Graham's.

Wolfe, A. J .....Midway.
Walker, F. P.....Appleton.
Wright, L. A.....Bamberg.
Young, Wm. J.....Campbellton.

BEAUFORT.

Gibbes, A. S.....Beaufort.
Drew, Jos. E.....Hardeeville.
Prioleau, A. P.....Beaufort.
Roberts, T. N..... "
Stuart, H. M..... "
Pritchard.....Oakland Plantation.
Gregory, Thos. H.....Grahamville.
Seabrook, B. W..... "
Thompson, S. B.....Port Royal.
DuPont, C. E.....Grahamville.
Dewees, Jos..... "
Johnson, John A.....Beaufort.
Peters, Wm. C.....St. Helena Island.
Porter, Benj. F., Jr.....Lincolnville.

CHARLESTON.

Ancrum, John L.....Charleston.
Alleman, F. O..... "
Allston, E. F.....Palmersville.
Angel, Isaac W.....Charleston.
Buist, J. S..... "
Bellinger, A. N..... "
Baker, W. T. W.....McClellanville.
Barker, S. W.....St. John's Berkeley.
Brodie, R. L.....Charleston.
Chazal, John P..... "
Cleckley, H. M..... "
Crum, Wm. D..... "
Cain, Joseph P.....St. John's Berkeley.
DeSaussure, H. W.....Charleston.
DeSaussure, H. W., Jr..... "
DeSaussure, P. Gourdin..... "
Dawson, J. L. ..... "
Dawson, J. L., Jr..... "
Doar, S. D.....McClellanville.

Dwight, R. Y.....St. John's Berkeley.
DuPont, W.....Charleston.
Fraser, Henry D..... "
Fitch, Augustus..... "
Fripp, J. Evans.....John's Island.
Forrest, John.....Charleston.
Geddings, J. F. M..... "
Grimke, Thos. S..... "
Gilmore, J. L. B.....Holly Hill.
Hart, O. J.....Wadmalaw.
Huger, W. H.....Charleston.
Horlbeck, H. B..... "
Kellers, E. H..... "
Kinloch, R. A..... "
Kinloch, Geo. G..... "
Lockwood, S. L..... "
Linn, John..... "
Lebby, Robert..... "
Lanneau, Chas. B..... "
Lynah, A. M..... "
Michel, Middleton..... "
Mitchell, John S..... "
Meggett, Joseph M.....Ten Mile Hill.
McKewn, J. C.....Long Ridge.
McDow, T. B.....Charleston.
Ogier, T. L..... "
Ogier, W. G..... "
Palmer, Peter .....St. John's Berkeley.
Prioleau, J. Ford.....Charleston.
Prioleau, Thos. G..... St. John's Berkeley.
Parker, Francis L.....Charleston.
Porcher, F. Peyre..... "
Porcher, W. Peyre ..... "
Pelzer, A. P..... "
Pope, Daniel T..... "
Raoul, Alfred.....Moultrieville.
Ravenel, Wm. C.....Charleston.
Rhett, R. Barnwell, Jr..... "
Reenstjerna, T..... "
Rhett, Benjamin.....Summerville.
Simons, T. G.....Charleston.
Simons, Manning..... "
Sams, Donald D..... "

Seabrook, J. C.....Wadmalaw Island.
Schroder, C. H.....Charleston.
Schlepegrell, Julius..... "
Wragg, Wm. T..... "
Wiggins, James B.....Roadville.
Williams, D. R.....Mt. Pleasant.
Waring, M. N.....Pineville.
Pettigru, Wm.....Charleston.
Porter, Benj. F., Jr.....Lincolnville.

CHESTER.

Anderson, A. F.....Lowryville.
Aikinson, D. C.....York.
Babcock, S. E.....Chester C. H.
Cox, D. M.....Landsford.
Clawson, C. L.....Chester C. H.
Cornwell, W. J. W.....Cornwell's T. O.
Douglass, S. S. .....Blackstock.
Davega, S. M.....Chester C. H.
Douglass, T. J. H.....Cornwell's T. O.
Fort, W. A.....Fort Lawn.
Givin, T. M.....York.
Jordan, G. W.....Chestnut Grove.
Lyle, David.....Chester C. H.
Morrison, S. C..... " "
Marion, T. D.....Richburg.
McLerkin, S. W. B .....Chester C. H.
McKeown, C. B.....Rossville.
McCollum, Wm. M.....Baton Rouge.
McNeill, J. S.....Lowryville.
McCollum, J. M.....Baton Rouge.
Watson, J. A.....Chester C. H.
Wylie, S. M..... " "
Walker, J. A.....Fort Lawn.
Wade, J. A.....Baton Rouge.

CHESTERFIELD.

Kollock, C.....Cheraw.
McLean, J. K..... "
Gregory, G. W.....Catarrh.
Lucas, T. E.....Chesterfield C. H.

Myers, Albert.....Irvington.
Tavner, Thweatt.....White Plains.
Wilson, J. J.....Cheraw.

CLARENDON.

Richardson, S. C. C.....Manning.
Huggins, H. H..... "
Caldwell, W. R.....Summerton.
Staggers, J. Marion..... "
Burgess, Thos. L..... "
Wood, I. M.....McFadden's.
Ingram, John I.....Manning.
Dinkins, John G..... "
Oliver, Samuel P.....Foreston.
Badger, B. M.....Summerton.
Reynolds, W. H.....Packsville.

COLLETON.

Carter, Jos. P.....Smoke's Cross Roads.
Connor, Jas. D..... " " "
Fishburne, B. P.....Walterboro.
Fludd, D.....Summerville.
Hudson, W. A.....Bell's Cross Roads.
Kinsey, C. E.....Smoke's Cross Roads.
Lewis, F. P.....Walterboro.
Miller, W. H..... "
Moore, H. W.....Hendersonville.
Rivers, C. M.....Walterboro.
Stokes, Benj. W.....Walterboro.
Stokes, Peter.....Smoke's Cross Roads.
Witsell, Chas.....Walterboro.
Williams, A. H.....Jacksonboro.
Williams, E. H.....Cottageville.

DARLINGTON.

Boyd, J. A.....Darlington C. H.
Blackwell, J. H.....Florence.
Brouse, H. K.....Society Hill.
Byrd, J. O.....Timmonsville.
Blackwell, Samuel.....Ebenezer.
Bacot, P. B..... "

Coale, D. E.....Effingham.
Culpeper, J. F.....Timmonsville.
Evans, James.....Florence.
Galloway, W. L.....Lydia.
Iseman, M. S.....Darlington C. H.
Jarrot, J. B.....Florence.
Josey, J. M.....Lydia.
King, J. W.....Florence.
Lucas, B. S.....Hartsville.
Lunney, John.....Darlington C. H.
Lee, H. J.....Lydia.
Miller, E.....Florence.
McFarland, McL.....Florence.
Norment, B. C.....Darlington C. H.
Parrott, John B.....Philadelphia.
Player, W. A.....Darlington C. H.
Pressley, L. H.....Society Hill.
Palmer, G. G.....Cartersville.
Wilcox, J. C.....Darlington.
Wilson, Peter A.....Timmonsville.
Williamson, H.....Darlington C. H.
Wright, J. B. C.....Timmonsville.
Wallace, R. B. R. C.....Lydia.
Wilson, F. E.....Dovesville.
Hunter, J. M.....Timmonsville.

EDGEFIELD.

Bunch, G. A.....Collier's.
Buckhalter, C. M.....Rehoboth.
Butler, F. W. P.....Edgefield C. H.
Cowles, J. E.....Johnston.
Cartledge, J. J.....Elmwood.
Culbreath, W. A.....Rehoboth.
DuBose, Jno. B.....Ridge Spring.
DeVore, C. P.....Edgefield C. H.
DeVore, J. A.....“ “
Dozier, A. S.....“ “
Daligny, C.....Parksville.
Ellis, T. J.....Saluda Old Town.
Folk, H. M.....Batesburg.
Green, Jos. E.....Edgefield C. H.
Hill, J. Walter.....“ “

Jennings, W. D., Sr.....Edgefield C. H.
Jennings, W. D., Jr.....Vaucluse.
Jennings, Thos. E.....Modoc.
Kennerly, J. C. W.....Mount Willing.
Landrum, Jno.....Meeting Street.
Lagrone, D. P.....Clinton Ward.
Lanier, J. C.....Liberty Hill.
Nicholson, Walter.....Elmwood.
Pitts, Jas. W.....Big Creek.
Rushton, J. M.....Johnston's.
Sloan, Henry N.....Bouknight's Ferry.
Smith, Z. A.....Johnston's.
Shaw, Hitt.....Hamburg.
Shaw, H. A.....“
Sheppard, W. S.....Kirksey's.
Strother, C. S.....Batesburg.
Tomkins, F. A.....Parksville.
Trotter, Geo. P.....Mount Willing.
Timmerman, W. H.....Johnston's.
Trotter, Geo. P.....Mount Willing.
Vidal, A. W.....Fruit Hill.
Wyche, Cyril T.....Johnston's.
Wise, Geo. W.....Trenton.

FAIRFIELD.

Arnett, R. C.....Monticello.
Aiken, E. W.....Winnsboro.
Douglass, T. G.....Albion.
Davis, Jno. B.....Blythewood.
Edmunds, R. H.....Ridgeway.
Edmunds, W. T.....“
Fant, F. M. E.....Lyle's Ford.
Gibson, E. A.....Winnsboro.
Gibson, N. F.....White Oak.
Hanahan, R. B.....Winnsboro.
Meador, W. M.....Feasterville.
McKinstry, T. B.....Winnsboro.
McMaster, J. R.....“
Robertson, T. T.....“
Rabb, Chas. N.....Flint Hill.
Scott, J. A.....Gladden's Grove.
Scruggs, W. K.....Winnsboro.
Smith, Ira T.....“

GEORGETOWN.

Bailey, Thomas P.....Georgetown.
Flagg, J. J. N.....Brook Green.
Flagg, Arthur B..... " "
Grant, J. E..... " "
Heriot, Henry F.....Georgetown.
Magill, Wm. J..... "
Mayzck, Edmond.....Anandale.
Sparkman, James R.....Plantersville.
Sparkman, G. E. T.....Georgetown.
Sampson, A. F..... "
Williams, L. L..... "

GREENVILLE.

Anderson, D. R.....Fairview.
Bonham, E. S.....Greenville.
Berry, M. G..... "
Bennett, D. C.....Plain.
Bramlett, W. J.....Sandy Flat.
Burnett, Wm. T.....Pliny.
Caldwell, J. C.....Gowensville.
Crawley, S. B.....O'Neale.
Dorrah, J. F.....Greenville.
Donnald, J. H.....Piedmont.
Donnald, J. F.....Lenderman's.
Earle, T. T.....Greenville.
Furman, Davis..... "
Few, B. F.....Greer's Station.
Goodwin, H. P.....Marietta.
Goodlett, B. F.....Traveller's Rest.
Hewele, J. W.....Greenville.
Holcombe, J. M.....Greer's Station.
Harrison, J. W.....Cedar Falls.
Hunter, S. M.....Greenville.
Harrison, W. B.....Woodville.
Jones, W. R.....Greenville.
Jones, C. C.....Greenville.
Jenkins, G. F.....Cedar Falls.
Latimer, J. P.....Greenville.
Long, R. D..... "
League, W. P.....Clear Springs.

League, T. R.....Pelham.
Maxwell, Jno. H.....Greenville.
Mitchell, J. W.....Highland.
Mooney, W. A.....Gowenville.
Miller, W. S.....Walkersville.
Rowley, E. F. S.....Greenville.
Rullege, H. R..... "
Richardson, J. M.....Piedmont.
Roberts, M. B.....Sterling.
Swandale, G. T.....Greenville.
Stoddard, W. T.....Fairview.
Stokes, W. H.....Alba.
Stewart, H. B.....Fairview.
Snow, O. M.....Lenderman's.
Trescot, Geo. E.....Greenville.
West, M. L.....Marietta.
Wright, Wm. E.....Greenville.
Wood, T. E.....Mush Creek.
Wallace, Andrew.....Greenville.
Walker, Geo. T.....Walkersville.
Wasson, G. W.....Fairview.
Westmoreland, H. V.....Greer's Station.
Woodside, J. D.....Woodville.
West, B. P.....Alba.

HAMPTON.

HORRY.

Galbraith, A. H. J.....Conwayboro.
Grant, John H.....Bucksville.
Norton, Evan.....Conwayboro.
Sloan, R. G.....Little River.

KERSHAW.

Burnet, A. W.....Camden.
Deas, L. H..... "
DeSaussure, D. L..... "
Haile, J. E. W.....Flat Rock.
McCaa, John.....Camden.
Moore, A. A..... "
McKinnon, Lauchlin.....Lynchwood.
Norwood, J. E.....Tiller's Ferry.

LANCASTER.

Beckham, Robt. S.....Pleasant Hill.
Blakeney, Julius C.....Taxahaw.
Crawford, Martin P.....Lancaster.
Doster, Thomas L.....Tradesville.
Foster, Joseph H.....Lancaster.
Green, F. L.....Welsh's Mill.
Mackey, J. F.....Lancaster.
McManus, R. C.....Tradesville.
McDow, Thos. F.....Liberty Hill.
Nisbet, J. N.....Waxhaw.
Strait, S. L.....Lancaster.
Welsh, C. C.....Flat Creek.
Witherspoon, J. H.....Lancaster.
Witherspoon, M. R.....Lancaster.

LAURENS.

Anderson, D. L.....Laurens C. H.
Boozer, Job J.....Clinton.
Barksdale, John A.....Laurens C. H.
Blakely, S. F..... " "
Balentine, W. J.....Tumbling Shoals.
Cox, M. C.....Young's Store.
Coleman, F. D.....Waterloo.
Caine, E. M.....Milton.
Duvall, G. W.....Laurens C. H.
Duckett, L. F.....Huntington.
East, C. D.....Martin's Depot.
Edwards, Manning.....Novice.
Evans, O. B.....Martin's Depot.
Henderson, L. M.....Waterloo.
Irby, W. C.....Clinton.
Knight, S. S.....Power's Shop.
Kilgore, B. F.....Laurens C. H.
Martin, B. E..... " "
Martin, James A.....Pleasant Mound.
Martin, G. L.....Line Creek.
Miller, J. H.....Cross Hill.
McCoy, Thomas.....Laurens C. H.
McCarley, J. M.....Scuffletown.
McSwain, E. T.....Cross Hill.

Patton, John D.....Highland Home.
Parsons, Samuel D.....Martin's Depot.
Simpson, J. P.....Laurens C. H.
Smith, John R., Jr.....Mount Gallagher.
Saxon, C. A.....Huntington.
Simpson, E. G.....Cross Hill.
Simpson, A. Ross.....Clinton.
Setzler, F. M.....Roseborough.
Shand, W. A.....Tylersville.
Todd, T. E.....Laurens C. H.
Taylor, E. F.....Clinton.
Templeton, H. T.....Laurens C. H.
Vance, Norwood K.....Martin's Depot.
Waters, Eber.....Clinton.
Wilbar, J. Q.....Cross Hill.
Wolffe, John S.....Goodgion's.
Westmoreland, John A.....Young's Store.
Young, John W.....Clinton.

LEXINGTON.

Addy, W. L.....Leesville.
Brooker, W. T.....Pine Plains.
Crosson, D. M.....Lorena.
Crockett, M. J.....Columbia.
Dent, J. T.....Leesville.
Eargle, Joseph W.....Spring Hill.
Fox, T. S.....Batesburg.
Geiger, J. W.....Columbia.
Hayes, E. S. J.....Gilbert Hollow.
Kneece, J. K.....Leesville.
Kneece, W. L.....“
Krepps, B. K. H.....“
Keesler, W. S.....Rocky Well.
Leaphart, C. E.....Lexington.
Seabrook, J. G.....Calla.
Strother, E. F.....Batesburg.
Seay, J. H.....Rocky Well.
Wyse, B. R.....Countsville.
Muller, Gerhard.....Sandy Run, Columbia.

MARION.

Bass, T. R.....Scranton, N. E. R. R.
Bethea, J. F.....Reedy Creek.

Bethea, J. J.. ..... Zion.
Blake, E. E.....Nichols.
Conoley, F. H..... .....Zion.
David, J. H.....Little Rock.
Evans, Dickson.....Marion C. H.
Ford, C. T.....Mullin's.
Hinnant, T. B..... .....Forestville.
Harrell, William.....Mullin's.
Jarnigan, J. E.....Toby's Creek.
Kinloch, H. O.....Mars Bluff.
Murphy, N. C..... .....Marion C. H.
Mullins, James C..... " "
Miles, D. F..... ..... " "
Monroe, F. M..... " "
Pearce, J. F.....Mars Bluff.
Price, D. S.....Marion C. H.
Smith, E. B..... " "
Watson, D. I..... " "
Weatherly, T. J.....Little Rock.

MARLBORO.

Jennings, J. B.....Bennettsville.
Jennings, J. T.... ..... "
David, W. J ..... "
Jordan, J. L ..... "
Napier, J. L..... "
Patterson, R. J..... ..... "
Lane, J. H.....Clio.
Hamer, P. L..... ..... "
Hale, R. W..... "
Easterling, H. R.....Brightsville.
Smith, T. C..... .....Bennettsville.
McNair, J. W..... .....Adamsville.

NEWBERRY.

Bruce, Jerome D.....Prosperity.
Berley, Joel A.....Pomaria.
Berley, John E..... "
Cofield, James A.....Maybinton.
Clark, Richard P.....Jalapa.
Chapman, James K..... .....Pomaria.

* Evans, Oliver B.....Martin's Depot.
Folk, John William.....Jalapa.
† Ferguson, John W.....Newberry.
Gilder, James K..... "
Halfacre, John C..... "
Johnson, James P.....Liberty Hall.
Keitt, E. George.....(Died since registering.)
Kibler, Levi L.....Prosperity.
Mayer, Orlando B., Jr.....Newberry.
Mayer, Orlando B., Sr..... "
McIntosh, James..... "
Pope, Sampson..... "
Patton, Daniel W..... "
Pressley, B. Ruff..... "
Ruff, Jas. M. H..... "
Seltzer, Geo. A.....Pomaria.
Thompson, John M.....Silver Street.
Werts, Daniel H.....Prosperity.

* Registered also in Laurens County.

† Left the County.

OCONEE.

D. B. Darby, W. A. Williams, J. M. Crenshaw, T. C. Hutchinson, Thomas L. Lewis, J. M. McClannahan, J. L. McCurry, J. W. Spearman, James A. Johns.

ORANGEBURG.

Arant, J. C.....Orangeburg C. H.
Able, A. R.....St. Matthew's.
Ayers, E. N.....Orangeburg C. H.
Barton, William S..... " "
Barton, D. W..... " "
Bowman, O. N.....Rowesville.
Bates, Rezin W.....McCantsville.
Bates, L. B.....St. Matthew's.
Dukes, A. C.....Orangeburg C. H.
Dantzler, M. J. D.....Vance's.
Fair, H. N.....St. Matthew's.
Grissett, M. S.....Branchville.
Hydrick, A. S.....Orangeburg C. H.
Holman, J. A. K..... " "
Horger, A. I.....Jamison's.
Hildebrand, D. L.....St. Matthew's.

Inabinett, J. J.....Orangeburg C. H.
Jones, Thomas A..... " "
Miller, Jas. P.....Blackville.
Malone, T. R.....St. Matthew's.
O'Dowd, W. H.....Blackville.
Ott, O. H.....Branchville.
Odom, George I.....Blackville.
Pon, William L.....St. Matthew's.
Pon, T. J.....Orangeburg C. H.
Salley, M. G.....Orangeburg.
Salley, A. S..... "
Sheridan, James L.....McCantsville.
Summer, J. W.....Orangeburg.
Salley, N. W.....Blackville.
Wannamaker, W. C.....Orangeburg.
Whetstone, W. C.....St. Matthew's.
Whetstone, N. C.....Branchville.

PICKENS.

Earle, George W.,.....Pickens C. H.
Anderson, J. T.....Dacusville.
Epton, J. W..... "
Quillian, J. W.....Easley.
Gilliland, R. J..... "
Earle, James W..... "
Robinson, George E.....Liberty.
Hollingsworth, W. R..... "
Clayton, Silas W.....Central.
Clayton, Lawrence G..... "
Folger, Thomas W..... "

RICHLAND.

Durham, Jacob Javan.....Columbia.
Taylor, B. W..... "
Howe, George..... "
Pope, D. S..... "
Keith, John A.....Adams Cut.
Bates, W. T. C.....Columbia.
Sylvester, A. A..... "
Trezevant, G. S..... "
Green, Frank..... "

Heinitsh, H. D.....Columbia.
Talley, A. N..... "
Thompson, J. L..... "
Griffin, P. E..... "
Philpot, L. K..... "
Miller, D. B., Jr..... "
McKenzie, S. W.....Gadsden.
Lever, J. D.....Richland County.
Keith, W. W.....Eastover.
Abney, E. L.....Richland.
Suydam, Charles H..... "

SPARTANBURG.

Bonner, M.....Gaffney City.
Bates, B. F.....Cowpens.
Bennett, B. O.....Reidville.
Cleveland, J. F.....Spartanburg.
Chapman, W. J.....Spartanburg County.
Clawson, J. H.....Spartanburg C. H.
DeBard, H. C.....Cashville.
Drummond, M. W.....Woodruff's.
Dean, George R.....Campton.
Falls, O. G.....Clifton.
Gaffney, J. G.....Gaffney City.
Gaston, W. R.....Reidville.
Hill, Joseph.....Spartanburg.
Heinitsh, G. W..... "
Harrison, W. A.....Reidville.
Holmes, H. M.....Gaffney City.
Lancaster, S. T. D.....Glenn Springs.
Littlejohn, C. M.....Pacolet Depot.
Lanham, J. M.....Cavins.
Landrum, J. B. O.....Campobella.
Mendenhall, J. N.....Gaffney City.
Means, T. S.....Spartanburg.
Moore, J. N..... "
Martin, J. A.....Martinsville.
Miles, C. P.....Hobbysville.
Miles, M. D..... "
Nesbitt, L. C.....Cavins.
Nott, T. E.....Spartanburg.

Nesbitt, A. J.....Crawfordsville.
Peebles, L. H.....Duncan's.
Pool, J. T.....Cross Anchor.
Paris, D. C.....Paris.
Pleasants, James A.....Martinsville.
Reed, S. H.....Spartanburg.
Russell, W. T.....“
Smith, W. F.....Glenn Springs.
Spencer, A. R.....Spartanburg County.
Smith, Lee L.....“ “
Smith, S. B.....Pacolet Depot.
Smith, Manning T.....Fair Forest.
Thomason, J. S.....Pacolet Depot.
Thompson, R. J.....Holly Springs.
Wright, T. S.....Woodruff's.
Walker, W. E.....Reidville.
Ward, T. J.....Barry's.
Ward, T. S. R.....Glendale.

SUMTER.

Bossard, Jno. J.....Sumter.
Beckham, Q. M.....“
Blanding, A. L.....“
Bull, W. Izard.....Stateburg.
Burgess, W. Hamilton.....“
China, A. J.....Sumter.
Cane, Chas. L.....Bishopville.
Dick, Leonard W.....Bossard's.
DuBose, Henry Y.....Mechanicsville.
Dennis, R. E.....Bishopville.
Furman, Jno. H.....Sumter.
Frierson, A. H.....Lynchburg.
Green, Chas. H.....Mt. Clio.
Green, Henry D.....Mechanicsville.
Garmany, G. W.....Sumter.
Hughson, Jno. S.....“
Hudson, J. W.....Mayesville.
Mayes, J. A.....“
Miller, J. J. L.....Smithville.
Mood, J. A.....Sumter.
McLeod, R. Y.....Bishopville.
Moore, Richard M.....Hagood.

McLaurin, Henry J.....Wedgefield.
Pringle, Wm. J.....Sumter.
Sanders, J. M.....Magnolia.
Spann, J. C.....Stateburg.
Wells, Thos.....Lynchburg.

UNION.

Butler, P. P.....Santuc.
Beaty, H. S. .....Union C. H.
Culp, M. W. ..... " "
Douglass, George.....Santuc.
Dalton, W. T.....Kelton.
Fant, A. E.....Santuc.
Garner, J. E.....Skull Shoals.
Littlejohn, K. M.....Jonesville.
Layton, J. T.....Cross Keys.
Munro, Theodore.....Union C. H.
Murphy, C. T.....
McClowney, J. F.....Wilkinsville.
Norman, J. F.....West Springs.
Orr, J. D.. .....Mount Moriah.
Posey, B. F.....Union C. H.
Posey, J. W .....
Rogers, J. Rice.....West Springs.
Renwick, J. E... .....Goshen Hill.
Rawls, B. F.....Union C. H.
Southard, W. O.....Jonesville.
Sims, W. H.....Gowdeysville.
Thomas, J. P.....Santuc.
Walker, M. J.....Star Farm.
Hamilton, J. H. .....Cold Well.

WILLIAMSBURG.

Croswell, A. L.....Gourdin's.
Muller, T. D.....
Scott, D. C.....Indiantown.
Boyd, S. N.....Salter's.
Henry, Robert.....Gourdin's.
Pendergrass, S. F.....Kingstree.
Brockinton, W. S.....
Brockinton, J. S.....

Brockinton, W. W.....Kingstree.
Brackston, J. M.....Greeleyville.
Cunningham, J. S.....Indiantown.
Steele, T. P.....Black Mingo.
Kelly, M.....Graham's Cross Roads.
Byrd, S. D. M.....Scranton.
James, J. A.....Indiantown.
Brockinton, J. R.....“
Wilson, D. E.....“
Boyd, W. S.....Salter's.
Hemmingway, T. S.....Mome.
Maurice, R. F.....Salters.

YORK.

Atkinson, D. C.....Sandersville.
Anderson, Wm.....Black's Station.
Adams, Wm. E.....Bowling Green.
Adams, Charles E.....“ “
Allison, J. W.....Hickory Grove.
Bratton, James R.....Yorkville.
Black, John G.....Black's Station.
Campbell, Wm. G.....McConnellsville.
Campbell, Thos. W.....Clay Hill.
Campbell, A. P.....Clover.
Crosby, John S.....Blairsville.
Crawford, Thomas A.....Rock Hill.
Corethus, Thomas R.....Clover.
Darwin, R. R.....Hickory Grove.
DuBose, T. M.....Rock Hill.
Erwin, F. H.....Smith's T. O.
Feausta, B. C.....Bullock's Creek.
Gain, T. M.....McConnellsville.
Hambright, John P.....Clark's Fork.
Hambright, A. F.....Whitaker.
Hall, R. T. M.....Coates's Farm.
Hope, R. H.....Rock Hill.
Jackson, Hugh G.....Yorkville.
Knox, John.....Randellsburg, Mecklenburg Co., N. C.
Kell, S. A.....Fort Mills.
Latimer, John R.....Yorkville.
Love, William M.....McConnellsville.
Murphy, E. M.....Rock Hill.

May, John.....Yorkville.
Many, J. E.....Fort Mills.
Ramseur, David S.....Cleveland County, N. C.
Smart, James G.....Blainesville.
Truesdale, B. J.....Fort Mills.
Whitesides, T. B.....Hickory Grove.

LIST OF PHARMACISTS, APOTHECARIES AND RETAIL DRUGGISTS IN SOUTH CAROLINA.

ABBEVILLE.

Penny, W. T.....Abbeville.
Parker, Dr. E..... "
Prentiss, Dr. C. J.....Donnaldsville.
Moseley, C. R.....Abbeville.
Townsend, J. F.....Cokesbury.
Taggart, M. C.....Greenwood.
Calhoun, Dr. E. R..... "
Parks, Dr. F. G..... "
Lomax, J. A.....Cokesbury.
Connor, G. L..... "
McBride, Dr. E. H.....Abbeville.
Maxwell, Dr. J. C.....Greenwood.
Wakefield, W. M.....Ninety-Six.
Miller, Dr. J. L.....Due West.

AIKEN.

Hall, H. H.....Aiken.
Harbers, W. W..... "
Lee, Dr. J. L.....Langley Mills.
Steadly, Dr. E..... "
Atkinson, J. L.....Graniteville.
Ruff, D. S..... "
Durr, J. E..... "
Bowers, M. E.....Aiken.

ANDERSON.

Sampson, J. B.....Anderson.
Sloan, E. P..... "
Sloan, Dr. P. H. E.....Pendleton.
Williams, J. R.....Anderson.
Spearman, Dr. J. W.....Townville.
Hudgens, Dr. T. A.....Honea Path.
Page, W. H.....Townville.

Wilhite, Dr. P. A.....Anderson.
Wilhite, F. T..... "
Simpson, W. D..... "
Hill, T. F..... "
Ott, Dr. T. M..... "
Breazele, Dr. F. K.....Belton.

BARNWELL.

Todd, Dr. G. R.....Barnwell.
Brown, B. F..... "
Wright, Dr. L. A.....Bamberg.
Bellinger, J.....Barnwell.
Holman, R. D.....Graham's.
McKenzie, E.....Williston.
Stokes, J. F.....Blackville.
Harley, G. P.....Allendale.
Phillips, G. N.....Williston.
Stephens, Dr. L. C.....Blackville.
Smith, Dr. Z. N.....Johnson's.
Black, Dr. J. B.....Bamberg.
Wolfe, Dr. N. J.....Midway.
Erwin, Dr. C. W.....Allendale.
Ott, Dr. J. P.....Bamberg.
Smith, Dr. W. C.....Williston.
Brooker, Dr. L..... "
O'Bannon, Dr. J. J.....Barnwell.

BEAUFORT.

Johnson, Dr. J. A.....Beaufort.
Stuart, Dr. H. M..... "
Sams, F. F..... "
Seabrook, S. B. W.....Grahamville.
Clancy, J. H.....Beaufort.
Prioleau, Dr. A. P..... "
Thompson, Dr. T. L..... "
Smart, H. M..... "

CHARLESTON.

Artope, G. T.....Charleston.
Blackman, J..... "

Barbot, A. O.....Charleston.
Baer, Dr. H..... "
Berry, N. J..... "
Cohen, A. M..... "
Greenland, D. M..... "
Gibson, W. N..... "
Graman, J. H..... "
Hirt, E. R..... "
Hernandez, N. W..... "
Kellers, Dr. E. H..... "
Lockwood, J..... "
Linn, Dr. J..... "
Michaelis, C. O..... "
Panknin, C. F..... "
Scharlock, C. E..... "
Schwettman, C. F..... "
Dingle, H. M..... "
Vogt, D..... "
Stroub, G. W..... "
Collins, M. H..... "
Schwacke, A. W..... "
Aimar, T. O..... "
Erckman, C. G..... "
Eckel, A. W..... "
Luhn, G. J..... "
Spencer, Dr. A. R..... "
Hummel, H. W..... "
Torlay, J. E..... "
Skrine, Dr. W. A..... "
Rowlinsky, R. A..... "
Roumillat, J. R..... "
Guerin, Dr. H. C.....Summerville.
Ildeston, Dr. F. B..... "
Corby, I. J.....Charleston.
Burgess, W. H..... "
Roumillat, W. H..... "
Burnham, E. S..... "
Caulier, Dr. George..... "
Newton, T. E..... "
Aimar, C. P..... "
Kroeg, A..... "
Sawrey, W. H..... "
Robertson, P..... "

Meanter, F.....Charleston.
Horsey, J. M ..... "
Hedrich, G. F..... "
Rhett, Dr. B.....Summerville.

CHESTER.

Davega, A. H. .....Chester.
Leard, A..... "
Jordan, Dr. R. H..... "
Babock, Dr. S. J..... "
Stringfellow, J. J..... "
Raysor, C. A..... "
Douglass, Dr. L. S.....Blackstock.
Marion, Dr. T. D.....Richburg.

CHESTERFIELD.

McCreight, W. C.....Cheraw.
Wannamaker, T. E..... "
Waddill, A. F..... "

CLARENDON.

Dinkins, Dr. I. E.....Manning.

COLLETON.

Witsell, Dr. C.....Walterboro.
Minus, Dr. J. P.....George's.
Klein, J. W..... .Walterboro.
Pierce, G..... "
Lewis, Dr. F. P..... "
Klein, J. M..... "
Moorer, Dr. P. L.....George's.

DARLINGTON.

Boyd, Dr. J. A.....Darlington C. H.
King, Dr. ——.....Florence.
Lake, ——..... "
Roumillat, U. C..... "
Mays, Dr. J. A.....Darlington C. H.

Jarrot, Dr. J. B.....Florence.
Byrd, Dr. J. E.....Timmonsville.
Auld, Dr. J..... "
Iseman, Dr. M. T..... "

EDGEFIELD.

Penn, W. B.....Edgefield C. H.
Teague, Dr. T. J.....Johnston's.
Lynch, W. E.....Edgefield C. H.
Hughes, S. T..... " "
Tompkins, J. G..... " "

FAIRFIELD.

Aiken, Dr. W. R.....Winnsboro.
McMaster, Dr. J. R..... "
McMaster, G. H..... "
Ladd, Dr. C. H..... "
Clarke, C. M..... "
Desportes, R. S.....Ridgeway.
Palmer, Dr. J. B..... "

GEORGETOWN.

Bailey, Dr. T. P.....Georgetown.
Croft, L. C..... "
Anderson, B..... "
Hawkins, J. K..... "
Wasden, E..... "

GREENVILLE.

Earle, T.....Greenville.
Westmoreland, P. C..... "
Glazener, Dr. G. L..... "
Walter, F. A..... "
Wilks, Dr. —— ..... "
Bacot, D. T..... "
Johnson, C. W..... "
Dashiel, P. R..... "

HORRY.

Norton, Dr. E.....Conwayboro.
Norman, Dr. J. H..... "
Lake, F. N..... "

KERSHAW.

Dunlap, C. J.....Camden.
Zemp, Dr. F. L..... "
Zemp, Dr. F. M..... "

LANCASTER.

Crawford, M. P..... Lancaster C. H.
Strait, Dr. S. L..... " "
Witherspoon, Dr. T. H..... " "
Witherspoon, Dr. J. H..... " "

LAURENS.

Barksdale, Dr. J. E.....Laurens C. H.
Sampson, Dr. J. P..... " "
Wells, Dr. T.....Lynchburg.
Martin, ——.....Laurens C. H.
Traynham, J. H..... " "
Harston, J. S.....Martin's Depot.
Parsons, Dr. J. D..... " "
McCoy, T.....Laurens C. H.
Fripp, Dr. C.....Martin's Depot.
Irby, Dr. W. C.....Clinton.
Harris, Dr. T. Y..... "
Craig, Dr. J. T..... "
Henry, Dr. J. H.....Laurens C. H.
Finley, Dr. C. J..... " "
Coleman, Dr. F. D.....Waterloo.
Speake, Dr. J. L.....Martin's Depot.

LEXINGTON.

Fox, Dr. T. S.....Batesville.
Davenport, J..... "
Kyzer, ——.....Lexington C. H.

MARION.

Irwin, A.....Marion C. H.
McMillan, W. C..... " "
Price, Dr. D. S..... " "
Monroe, Dr. T. M.....Temperance Hill.
McMillan, John C.....Marion C. H.
Monroe, T. W..... " "
David, Dr. J. H.....Little Rock.

MARLBORO.

Vidal, Dr. A. J.....Bennettsville.
Mullins, H. D..... "

NEWBERRY.

Fant, Dr. F. S.....Newberry C. H.
Pelham, W. E..... " "
McFall, Dr. W. T.....Prosperity.
Bruce, Dr. J. D..... "
Johnston, Theo.....Newberry C. H.
Tarrant, H. P..... " "

OCONEE.

Norman, R. E.....Walhalla.
McElroy, Dr. S. J.....Seneca City.
Yarborough, Dr. G. M..... " "

ORANGEBURG.

Berny, R. L.....Branchville.
Dukes, Dr. A. C.....Orangeburg.
Fair, Dr. H. N.....St. Matthew's.
Wannamaker, W. H.....Orangeburg.
Wannamaker, Dr. J. G..... "
Lee, B. B..... "
Reeves, S. E..... "
Neuffer, G. A..... "
Patrick, J. W..... "

PICKENS.

Williams, J. B.....Central.
Robinson, Dr. G. E.....Liberty.
Earle, Dr. G. W.....Picknens.

RICHLAND.

Jackson, E. E .....Columbia.
Miot, Dr. C. H..... "
Wells, W. R..... "
Miot, R. C..... "
Webb, C. C..... "
McGregor, W. C..... "
Silliman, L. T..... "
Wood, L. G..... "
Wiltberger, H. B..... "
Fisher, W. C..... "
Heinitsh, E. H..... "
Ligon, H. A..... "
Brown, C. S..... "
Reese, T..... "
Reynolds, S. M..... "
Steele, Dr. T. P..... "

SPARTANBURG.

Heinitsh, H. E.....Spartanburg.
Nott, Dr. T. E..... "
Means, Dr. F. S..... "
Dobson, C. L..... "
Little, Dr. J. B..... "
Turner, W. S.....Gaffney Station.
Dawkins, Dr. W. S.....Spartanburg.
Hill, Dr. Jos..... "

SUMTER.

Miller, Dr. J. T..... .....Sumter.
China, Dr. A. J..... "
Fleming, N..... "
Mayes, Dr. F. J.....Mayesville.
McKagan, J. A.....Sumter.

Moore, Dr. M. J.....Sumter.
Wilder, T. M..... "
Earle, Dr. L. P..... "
DeLorme, J. F..... "
Burgess, W. H.....Charleston.
Brooks, Dr. Z. T.....Mayesville.
Frierson, Dr. N. H.....Lynchburg.
Dennis, Dr. R. N.....Bishopville.

UNION.

Gibbs, J. M.....Unionville.
Rawls, Dr. R. T..... "
Ironig, A..... "
Garner, Dr. J. E..... "

WILLIAMSBURG.

Staggers, Dr. J. M..... Kingstree.
Byrd, Dr. S. D.....Mayesville.
Brockinton, Dr. J. S.....Kingstree.
Brockinton, Dr. T. F..... "

YORK.

Kuykendal, Dr. J. C.....Yorkville.
Campbell, Dr. A. P.....Clover.
Williamson, Dr. R. M.....Rock Hill.
Campler, —— -..... "
Allison, Dr. R. T.....Yorkville.
May, Dr. J..... "
Jackson, Dr. H. C..... "
Robertson, Dr. T. C.....Rock Hill.
McCully, ——..... "
Johnson, J. B..... "

List of Druggists who have been Licensed from December 19, 1881, to September 14, 1882.

Donnald, Dr. J. H.....Piedmont, Greenville.
Murphy, Dr. N. C.....Marion.
Cowles, Dr. J. E.....Johnston's, Edgefield.
Miller, Dr. J. H.....Cross Hill, Laurens.
Steele, Dr. T. P.....Black Mingo, Williamsburg.
Vidal, E. F.....Marlboro.
Berry, J. M.....Columbia, Richland.
Calhoun, P. B.....Edgefield.
Epting, H. I.....Anderson.
Brown, Dr. E. M.....Belton, Anderson.
Way, Dr. W. B.....Ridgeville, Colleton.
Wineman, P., Jr.....Summerville.
Fort, Dr. W. A.....Chester.
Patterson, Dr. A. B.....Barnwell.
Roberts, Dr. T. N.....Beaufort.
Fewell, Dr. J. H.....Rock Hill, Chester.
Schwacke, Jr., A. H.....Charleston.
Livingston, H. H.....“
Martin, W. H.....Columbia, Richland.
Green, Dr. Frank.....“ “
Dawson, Dr. J. E.....Charleston.
Williams, Dr. N. H.....Graham's Cross Roads, Williamsburg.

List of Dentists in South Carolina.

Anderson, John.....Charleston.
Alexander, J. H.....Camden.
Abbot, H. F.....Sumter.
Bennett, J. H.....Grahamville.
Black, H. W.....Graham's T. O.
Bonner, M.....Spartanburg.
Bissell, M.....Camden.
Bond, O. J.....Chester.
Black, W. C.....Laurens.
Brown, W. S.....Charleston.
Bull, W. R..... "
Bruce, A.....Greenville.
Ball, W. H..... "
Boyd, M. P.....Union.
Boucher, P. W.....Cheraw.
Bennet, W. C.....Spartanburg.
Boozer, D. L.....Columbia.
Bacot, T. W.....Darlington.
Burke, J. A.....Midway.
Barnett, —.....Aiken.
Campbell, T. C.....Hilton Head.
Calvert, C.....Orangeburg.
Craven, Alford.....Lancaster.
Crymes, J. W.....Williamston.
Cureton, J. D.....Rock Hill.
Carpenter, Jos.....Spartanburg.
Conner, P. B.....Cokesbury.
Colston, C. B.....Charleston.
Courtney, ——.....Trenton.
Crum, ——.....Branchville.
Dotterer, T. D.....Charleston.
Dinkins, S. M.....Sumter.
Durham, A. K.....Greenville.
Durham, I. D.....Blue Swamp.
Dobson, L. B.....—— ——
Dowling, C. P.....Blackville.
Faust & Snider.....Graham's T. O.
Guess, S. D. M..... "
Gandy, ——.....Liberty Hill.

Gambate, O. F.....Bamberg.
Glenn, James A.....Rock Hill.
Hooton, A. B.....Bamberg.
Hereford, M. A.....Anderson.
Herndon, J. J., Jr.....Bennettsville.
Handbury, W.....Graham's T. O.
Hanckle, M. S.....Charleston.
Hart, B. C.....Cokesbury.
Hutto, C. B.....George's Station.
Hamilton, W. W.....Marion.
Hill, A. M.....Greenville.
Harmon, John.....Prosperity.
Hughes, Evan.....Gallivant's Ferry.
Hays, W. S.....Buford's Bridge.
Jones, G. M.....Anderson.
Jones, E. C.....Newberry.
Johnston, A. P.....Anderson.
Johnston, J. F.....Beaufort.
Inabenet, J. H.....Orangeburg.
Kelly, J. M.....Abbeville.
Kibler, Amos.....Prosperity.
Legare, T. B.....Camden.
Legette, A.....Centenary.
Lee, C.....Spartanburg.
Oeland, J. C.....“
Miles, J. A.....Charleston.
Morecock, J. C.....Grahamville.
Muckenfuss, B. A.....Charleston.
Muckenfuss, B. F.....Orangeburg.
McCalum, D. R.....Sumter.
McDavid, J. Q.....Greenville.
Millhouse, J. H. E.....Blackville.
Mouzon, H. J.....“
Moore, T. T.....Columbia.
Mosely, J. B.....Lowndesville.
Mitchell, Jos. F.....Leesville.
Martin, E. G.....Greenwood.
Mack, ———.....Bull Swamp.
Norwood, J. W.....Greenville.
O'Shields, R. H.....Pendleton.
Owens, L. D.....Shelton's.
Owens, W. H.....Monticello.
O'Neal, Wm. P.....Charleston.
Patrick J. B.....“

Patrick, C. C.....Charleston.
Patrick, J. B., Jr.....,"
Patrick, C. S.....,"
Patrick, W. W.....Midway.
Patterson, J. A. ....Barnwell.
Parker, H. H.....Edgefield.
Quattlebaum, Jos.....Blythewood.
Quattlebaum, B. J.....Williston.
Roberts, R. C.....Allendale.
Ross, A. W.....Florence.
Russel, W. T.....Spartanburg.
Reynolds, W. L.....Columbia.
Ruff, F. R.....Due West.
Rawlinson, N. M.....——— ———
Roundtree, —— ——.....Barnwell.
Smoke, L. E. M.....Smoke's Cross Roads.
Sweet, E. L.....Centenary.
Smith, R. Atmar.....Charleston.
Smith, George.....Lexington.
Simmonds, C. J.....Walhalla.
Shaffer, W. H.....Marion.
Snider, A. M.....Orangeburg.
Simpson, I.....Winnsboro.
Sessions, P. W.....Kingstree.
Solomons, J. R.....Charleston.
Solomons, E.....Sumter.
Spain, A. C.....Darlington.
Sams, R. R.....Beaufort.
Taylor, Alford.....Chick Springs.
Thompson, Butler.....Yorkville.
Thompson, J. R.....Newberry.
Thompson, J. S.....Greenville.
Teague, B. H.....Aiken.
Treadwell, W. B.....Orangeburg.
Vick, C. L.....Chesterfield.
Walker, W. M.....Yorkville.
Wolfe, L. S .....Orangeburg.
Wilson, H. D.....Abbeville.
Wofford, H. C.....Clinton.
Winges, G. M.....Sumter.
White, A. J.....Manning.
White, G. B.....Chester.
Wright, G. F. S.....Columbia.
Wilbur, W. C.....Charleston.

Annual Report of Receipts and Expenditures During the Fiscal Year Ending October 31st, 1882.

Date.	From Whom Received.	Amount.
1881.	Dr.	
Nov. 1.	Balance in hand.....	$855 43
1882.		
Jan. 28.	Received of State Treasurer.....	250 00
Feb. 19.	Received of State Treasurer.....	150 00
" 20.	Received of B. W. Taylor for vaccine virus..	4 55
" 20.	Received of C. F. Panknin for vaccine virus.	3 00
June 5.	Received of State Treasurer.....	500 00
" 16.	Received of J. F. Prioleau, M. D., Dean of Faculty.....	19 75
Aug. 8.	Received of State Treasurer.....	300 00
Oct. 5.	Received of State Treasurer.....	800 00
		$2,882 73

Annual Report of Receipts and Expenditures During the Fiscal Year Ending October 31st, 1882.—Continued.

Date.	Voucher.	To Whom Paid.	Amount.
1881.		Cr.	
Nov. 30.	1	Paid Walker, Evans & Cogswell	$647 44
Dec. 6.	2	C. F. Panknin	3 85
" 8.	3	F. F. Gary, expenses as delegate	14 75
" 10.	4	News and Courier, advertisements	4 50
" 14.	5	Roswell T. Logan, advertising quarantine notice	14 00
1882.			
Jan. 1.	6	H. D. Fraser, Secretary, quarter's salary	125 00
" 20.	7	F. F. Gary, mileage and per diem	24 60
" 23.	8	Caswell & Hazzard, vaccine virus	20 00
" 30.	9	News and Courier, advertising vaccine circulars	17 90
" 30.	10	Walker, Evans & Cogswell's bill	66 95
" 30.	11	Edward Perry's bill, printing and stationery	41 55
" 31.	12	C. A. McHugh's bill	60 00
Feb. 16.	13	C. A. Calvo, Jr., advertising vaccine virus circular	21 00
" 22.	14	J. Ford Prioleau, mileage and per diem	23 00
" 23.	15	H. D. Fraser, three self registers to anemometers	99 87
April 1.	16	H. D. Fraser, advances as per voucher.	14 58
" 1.	17	H. D. Fraser, Secretary, quarter's salary	125 00
" 6.	18	F. F. Gary, mileage and per diem	24 60
June 16.	19	Edward Perry's bill.	38 50
" 17.	20	T. G. Simons, mileage and per diem	23 00
" 17.	21	T. G. Simons, mileage and per diem	23 00
" 17.	22	T. G. Simons, mileage and per diem	18 00
" 17.	23	T. G. Simons's bill	6 21
" 20.	24	H. D. Fraser, mileage and per diem	23 00
" 20.	25	H. D. Fraser, mileage and per diem	23 00
" 20.	26	J. F. Prioleau, mileage and per diem	23 00
" 20.	27	News and Courier Company, advertising	31 95
July 1.	28	H. D. Fraser, Secretary, quarter's salary	125 00
" 1.	29	H. D. Fraser, advances as per voucher.	16 30
" 7.	30	F. F. Gary, mileage and per diem	19 60
" 7.	31	J. R. Bratton, mileage and per diem	18 60
" 7.	32	J. R. Bratton, mileage and per diem	18 60
" 7.	33	B. W. Taylor, per diem	15 00
" 7.	34	H. D. Fraser, mileage and per diem	23 00

Annual Report of Receipts and Expenditures During the Fiscal Year Ending October 31st, 1882.—Concluded.

Date.	Voucher.	To Whom Paid.	Amount.
1882.		Cr.	
July 10.	35	Walker, Evans & Cogswell	$13 50
" 12.	36	J. F. Prioleau, mileage and per diem	23 00
" 12.	37	T. G. Simons, mileage and per diem	23 00
" 20.	38	P. A. Wilhite, mileage and per diem	27 65
" 20.	39	P. A. Wilhite, mileage and per diem	27 65
Sept. 25.	40	H. D. Fraser, for 1 self-register, &c., to anemometer	40 37
Oct. 1.	41	H. D. Fraser, Secretary, quarter's salary	125 00
" 3.	42	F. F. Gary, mileage and per diem	24 60
" 8.	43	B. W. Taylor, mileage and per diem	5 00
" 8.	44	J. R. Bratton, mileage and per diem	23 00
" 8.	45	P. A. Wilhite, mileage and per diem	27 65
" 8.	46	H. D. Fraser, mileage and per diem	23 00
" 8.	47	J. Ford Prioleau, mileage and per diem.	23 00
" 10.	48	Edward Perry's bill	29 65
" 10.	49	H. D. Fraser, advances as per voucher.	3 91
" 11.	50	C. F. Panknin's bill	4 00
			$2,238 33
		Balance	644 40
			$2,882 73

HENRY D. FRASER, M. D.,
Treasurer Executive Committee State Board of Health.

	November, 1881.	December.	January, 1882.	February.	March.	April.	
AIKEN.							
Highest barometer during the month	30.088	29.970	29.974	29.989			
Lowest barometer during the month	29.217	29.097	29.098	28.914			
Mean barometer during the month	29.613	29.624	29.620	29.645			
Highest temperature during the month	80°	74°	75°	75°			
Lowest temperature during the month	22°	28°	21°	27°			
Mean temperature during the month	59.80°	52.25°	49.73°	54.68°			
Prevailing winds	E. and W.	E. and N.-E.	E. and N.-E.	N.-W. and S.-W.			
Maximum velocity of force							
Total number of miles traveled			2,737	2,521			
Total rainfall or melted snow	3.52 inches.	3.93 inches.	2.35 inches.	.95 inches.			
NEWBERRY.							
Highest barometer during the month	30.014	30.05	29.943	29.930	29.842	29.805	
Lowest barometer during the month	29.217	29.135	29.065	29.034	29.230	29.041	
Mean barometer during the month	29.632	29.611	29.593	29.576	29.502	29.447	
Highest temperature during the month	83°	71.8°	68°	68°	74.5°	81°	
Lowest temperature during the month	32.3°	33.5°	26°	36.3°	45.4°	42°	
Mean temperature during the month						69.3°	
Prevailing winds	N.-E.	N.-E.	N.-E.	S.-W. and W.	W.	N.-E. and S.-W.	
Maximum velocity of force							18
Total number of miles traveled	2,870	3,917	3,957	3,630	4,285	2,897	
Total rainfall or melted snow			3.605 inches.	5.21 inches.	2.29 inches.	3.570 inches.	
DARLINGTON.							
Highest barometer during the month			30.96	30.45	30.339	30.203	
Lowest barometer during the month			29.44	29.44	29.668	29.371	
Mean barometer during the month							
Highest temperature during the month			75°	74°	82°	86°	
Lowest temperature during the month			24°	35°	39°	45°	
Mean temperature during the month							
Prevailing winds			S., N.-E. and W.	S.-W., E. and S.	N.-E., W. & S.-W.	S. and S.-W.	S
Maximum velocity of force							
Total number of miles traveled							
Total rainfall or melted snow			2.46 inches.	1.79 inches.	5.74 inches.	5.81 inches.	

February.	March.	April.	May.	June.	July.	August.	September.
29.989							
28.914							
29.645							
75°					90°	91°	86°
27°					59°	61°	58°
54.68°							
N.-W. and S.-W.							
2,521							
.95 inches.					3.32 inches.	3.15 inches.	4.06 inches.
29.930	29.842	29.805	29.787				
29.034	29.230	29.041	29.134				
29.576	29.502	29.447	29.452				
68°	74.5°	81°	86°				
36.3°	45.4°	42°	53°				
		69.3°	71.2°				
S.-W. and W.	W.	N.-E. and S.-W.	W. and S.-W.				
			18 miles per hour.				
3;630	4,285	2,897					
5.21 inches.	2.29 inches.	3.570 inches.	2.63 inches.				
30.45	30.339	30.203	30.147	30.023	30.180	30.270	30.220
29.44	29.668	29.371	29.510	29.547	29.567	29.820	28.931
74°	82°	86°	97°	98°	99°	91°	88°
35°	39°	45°	42°	62°	62°	70°	62°
S.-W., E. and S.	N.-E., W. & S.-W.	S. and S.-W.	S. and S.-W.	S.-W.	E., S. and S.-W.	S. and S.-W.	E. and S.-W.
1.79 inches.	5.74 inches.	5.81 inches.	1 inch.	2.30 inches.	4.09 inches.	4.29 inches.	2.47 inches.

report from Aiken for the months of March, April, May and June, 1882; and no report from Newberry for the months of June, July, August and

AN ACT TO REGULATE THE LICENSING OF PHYSICIANS AND SURGEONS.

SECTION 1. *Be it enacted* by the Senate and House of Representatives of the State of South Carolina, now met and sitting in General Assembly, and by the authority of the same: A person shall not practice physic or surgery for compensation within the State unless he is twenty-one years of age and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization, or is hereafter authorized to do so by subsequent Sections of this Act.

SEC. 2. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the 1st day of June, 1882, and every person hereafter duly authorized to practice physic and surgery shall, before commencing to practice, register in the Clerk's office of the County where he is practicing or intends to commence the practice of physic and surgery, in a book to be kept by said Clerk, his name, residence and place of birth, together with his authority for so practicing physic and surgery as prescribed in this Act. The person so registering shall subscribe, and verify by oath or affirmation before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same and by whom granted, which if willfully false shall subject the affiant to conviction and punishment for perjury. The County Clerk to receive a fee of (25) twenty-five cents for such registration, to be paid by the person so registering.

SEC. 3. A person who violates either of the two preceding Sections of this Act, or who shall practice physic or surgery under cover of a diploma illegally obtained, is guilty of a misdemeanor, punishable by fine not less than ($50) fifty dollars nor more than ($200) two hundred dollars for the first offense, and each subsequent offense by a fine not less than ($100) one hundred dollars, or by imprisonment for not less than (30) thirty days nor more than (90) ninety days, or both. The fine, when collected, shall be paid, the one-half to the person or corporation making the complaint, the other half into the County treasury.

SEC. 4. A person coming to the State may be licensed to practice physic or surgery, or either, within the State in the following manner: If he has a diploma conferring upon him the degree of Doctor of Medicine, issued by an incorporated university, medical college or medical school without the State, he shall exhibit the same to the Faculty of some incorporated medical college, or the Medical Board of the State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician and surgeon as said medical college or Medical Board may require. If his diploma and qualifications are approved by them, then they shall endorse said diploma,

which shall make it, for the purpose of his license to practice medicine and surgery within this State, the same as if issued by them. This applicant shall pay to the Dean of said Faculty or Medical Board the sum of twenty ($20) dollars for such examination and endorsement. The endorsed diploma shall authorize him to practice physic and surgery within the State, upon his complying with the provisions of Section two (2) of this Act.

SEC. 5. The Medical Board referred to in the previous Section shall be composed of the physicians and surgeons constituting the local Board of Health in various Counties of the State—the local Board of Health for each County having jurisdiction over all matters contrary to this Act occurring within its borders. The money paid by the applicant to the Dean of said medical college or the Medical Board shall be given to the Treasurer of the State Board of Health, to be used for sanitary purposes.

SEC. 6. The degree of Doctor of Medicine lawfully conferred by any medical college or university in this State shall be a license to practice physic and surgery within the State, after the person to whom it is granted shall have complied with Section (2) two of this Act.

SEC. 7. Nothing in this Act shall apply to commissioned medical officers of the United States army or navy, or the United States Marine Hospital Service.

SEC. 8. All Acts or parts of Acts inconsistent with this Act are hereby repealed.

In the Senate House, the seventeenth day of December, one thousand eight hundred and eighty-one.

J. D. KENNEDY, President of the Senate.
J. C. SHEPPARD, Speaker House of Representatives.

Approved December 17th, A. D. 1881.
JOHNSON HAGOOD, Governor.

AN ACT TO AMEND AN ACT ENTITLED "AN ACT TO REGULATE THE LICENSING OF PHYSICIANS AND SURGEONS."

SECTION 1. *Be it enacted* by the Senate and House of Representatives of the State of South Carolina, now met and sitting in General Assembly, and by the authority of the same, That Section 2 of an Act entitled "An Act to regulate the licensing of physicians and surgeons,"

approved December 17, 1881, be, and the same is hereby, stricken out and the following substituted in lieu thereof:

"SEC. 2. From and after the 1st day of June, 1882, every person now duly authorized to practice physic and surgery within this State, and every person hereafter duly authorized to practice physic and surgery, shall, before commencing to practice, register in the office of the Clerk of the Court of the County where he is practicing or intends to commence the practice of physic and surgery, in a book to be kept by said Clerk, his name, residence and place of birth, together with his authority for so practicing physic and surgery as prescribed in this Act. The person so registering shall subscribe, and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same and by whom granted, which, if willfully false, shall subject the affiant to conviction and punishment for perjury. The said Clerk of the Court to receive a fee of twenty-five (25) cents for such registration, to be paid by the person so registering: *Provided*, That any registrations made in conformity to the provisions of the Act herein amended are hereby confirmed and made valid."

In the Senate House, the fifth day of July, in the year of our Lord one thousand eight hundred and eighty-two.

J. D. KENNEDY, President of the Senate.
J. C. SHEPPARD, Speaker House of Representatives.

Approved July 5, A. D. 1882.

JOHNSON HAGOOD, Governor.

ACT ESTABLISHING THE STATE BOARD OF HEALTH.

[*In General Statutes, Section* 911, *et seq.*]

"SECTION 911. The South Carolina Medical Association and their successors, in their corporate capacity, together with the Attorney and Comptroller Generals of the State and their successors in office, are a Board of Health for the State of South Carolina, to be known as the State Board of Health.

"SEC. 912. The said State Board of Health is invested with all the rights and charged with all the duties pertaining to organizations of like character, and said Board of Health, so constituted and established,

shall be the sole adviser of the State in all questions involving the protection of the public health within its limits; and it shall be the duty of the said Board to make an annual report to the Legislature on all matters relating to its action.

"SEC. 913. The said Association, every seven years, reckoning from first January, 1879, shall select seven members to be recommended to the Governor, who shall appoint them to co-operate with the State officers above named, to constitute an Executive Committee, having power to act in the intervals of the meetings of the State Board of Health. This Committee shall make annually a detailed report to the State Board of Health. Members of this Committee shall be removable at the pleasure of the Governor, by him at the request of the State Board of Health, or for neglect of duty, or other causes set forth by the majority of the members of the Executive Committee. Vacancies shall be filled by appointment by the Governor on recommendation of the State Board of Health or of the Executive Committee, when such vacancies occur in the intervals of the meetings of the Association.

"SEC. 914. This Executive Committee shall, immediately after their appointment, proceed to organize by electing a Chairman and Secretary, the latter to be *ex officio* Registrar General of the State. They are authorized and empowered to divide the State into health districts, and in those districts in which no local Boards of Health exist they shall appoint sub-Boards of Health, which shall consist of two practicing physicians and one layman. In all cases where local Boards of Health have already been established these shall be subject to the supervisory and advisory control of the State Board of Health through its Executive Committee. They shall pass no ordinances nor consider any such of force as are repugnant to the rules and regulations of the State Board of Health.

"SEC. 915. It shall be the duty of the State Board of Health, through its Executive Committee, to investigate the causes, character and means of preventing such epidemic and endemic diseases as the State is liable to suffer from; the influence of climate, location, occupations, habits, drainage, scavengering, water supply, heating and ventilation; and shall make inspections annually, or oftener if necessary, of the sanitary condition of all institutions provided as State charities or supported at the public expense.

"SEC. 916. The sub-Boards constituted as herein provided, and local Boards of Health already organized, are charged with the duty of investigating within their districts all matters of sanitary interest or scientific importance bearing in any wise upon the protection of the public health, and shall report to the Executive Committee at such times and in such manner and form as the Executive Committee may prescribe.

"SEC. 917. The State Board of Health shall supervise and control the quarantine system of this State, and shall annually, or oftener if necessary, require reports from the Health Officer, in such forms as may be prescribed, in all matters pertaining to quarantine. They shall also be authorized to establish quarantine both by land and sea. This quarantine shall not be established except by the advice and consent of the Governor.

"SEC. 918. It shall be the duty of the Executive Committee of the State Board of Health to recommend such provisions of law as shall be deemed necessary for the thorough organization of a system of registration of vital statistics throughout the State, and shall prepare the necessary methods and forms for obtaining and preserving such statistics.

ACT LICENSING PHYSICIANS.

[*General Statutes, Section* 919, *et seq.*]

"SEC. 919. 1. A person shall not practice physic or surgery for compensation within the State unless he is twenty-one years of age, and either has been heretofore authorized so to do, pursuant to the laws in force at the time of his authorization, or is hereafter authorized to do so by subsequent subdivisions of this Section.

"2. Every person now lawfully engaged in the practice of physic and surgery within the State shall, on or before the first day of June, 1882, and every person hereafter duly authorized to practice physic and surgery shall, before commencing to practice, register in the Clerk's office of the County where he is practicing or intends to commence the practice of physic and surgery, in a book to be kept by said Clerk, his name, residence and place of birth, together with his authority for so practicing physic and surgery, as prescribed in this Section. The person so registering shall subscribe, and verify by oath or affirmation, before a person duly qualified to administer oaths under the laws of the State, an affidavit containing such facts, and whether such authority is by diploma or license, and the date of the same and by whom granted, which if willfully false shall subject the affiant to conviction and punishment for perjury. The County Clerk to receive a fee of twenty five (25) cents for such registration, to be paid by the person so registered.

"3. A person who violates either of the two preceding subdivisions of this Section, or who shall practice physic or surgery under cover of a diploma illegally obtained, is guilty of a misdemeanor, punishable by fine not less than ($50) fifty dollars nor more than ($200) two hundred dollars for the first offense, and each subsequent offense by a fine not

less than ($100) one hundred dollars, or by imprisonment for not less than (30) thirty days nor more than (90) ninety days, or both. The fine when collected shall be paid, the one half to the person or corporation making the complaint, the other half into the County treasury.

"4. A person coming to the State may be licensed to practice physic or surgery, or either, within the State in the following manner: If he has a diploma conferring upon him the degree of Doctor of Medicine issued by an incorporated university, medical college or medical school without the State he shall exhibit the same to the Faculty of some incorporated medical college or Medical Board of the State, with satisfactory evidence of his good moral character, and such other evidence, if any, of his qualifications as a physician and surgeon as said medical college or Board may require. If his diploma and qualifications are approved by them, then they shall endorse said diploma, which shall make it, for the purpose of his license to practice medicine and surgery within this State, the same as if issued by them. This applicant shall pay to the Dean of said Faculty or Medical Board the sum of twenty dollars ($20) for such examination and endorsement. The endorsed diploma shall authorize him to practice physic and surgery within the State upon his complying with the provisions of subdivision 2 of this Section.

"5. The Medical Board referred to in the previous subdivision shall be composed of the physicians and surgeons constituting the local Board of Health in various Counties of the State—the local Board of Health for each County having jurisdiction over all matters contrary to this Section occurring within its borders. The money paid by the applicant to the Dean of said medical college or the Medical Board shall be given to the Treasurer of the State Board of Health, to be used for sanitary purposes.

"6. The degree of Doctor of Medicine, lawfully conferred by any medical college or university in this State, shall be a license to practice physic and surgery within the State, after the person to whom it is granted shall have complied with subdivision 2 of this Section.

"7. Nothing in this Section shall apply to commissioned medical officers of the United States army or navy or the United States Marine Hospital service.

"SEC. 920. In no case wherein the provisions of this Chapter shall have been violated shall any person so violating receive a compensation for services rendered: *Provided*, That nothing herein contained shall in any way be construed to apply to any person practicing dentistry or females practicing midwifery.

"SEC. 921. All persons now practicing or who may hereafter practice medicine or surgery, as herein provided, shall be entitled to charge, sue for and collect for their services.

"SEC. 922. The following compensation shall be allowed to any physician who may be called in by the County Coroner or acting Coroner to make a *post mortem* examination, and testifying thereof as an expert, to wit: When death was by violence or unknown cause and no dissection required, five dollars; where dissection is necessary and body not interred, ten dollars; same, after one or more days' interment, thirty dollars; for same when chemical analysis is required, a sum not exceeding fifty dollars, with expenses of analysis; and in addition to said fees, mileage for every mile traveled: *Provided*, When the chemical analysis has been made, the physician who makes it shall furnish to the County Commissioners with his account a full statement of analysis: *And provided*, Every such account must have the certificate of the Coroner or acting Coroner.

ACT LICENSING APOTHECARIES AND DRUGGISTS AND REGULATING THE SALE OF DRUGS.

[*General Statutes, Section* 923, *et seq.*]

"SEC. 923. The Pharmaceutical Association of the State of South Carolina shall elect annually four members, who, with two (2) other persons to be appointed by the Medical College of the State of South Carolina, shall constitute a Board of Pharmaceutical Examiners for the city of Charleston, to hold office for the term of one (1) year. And the said Association shall elect annually four (4) members, who, with two (2) other persons to be appointed by the Medical College of the State of South Carolina, shall constitute a Board of Pharmaceutical Examiners for the city of Columbia, to hold office for the term of one (1) year. Any vacancy or vacancies occurring in the course of the year in either or both of the above mentioned Boards shall be temporarily filled by the appointment of the President of the said Association. The said Boards shall be styled the Boards of Pharmaceutical Examiners and shall meet respectively in Charleston and Columbia once every three (3) months and keep in session until applicants who have previously made application to the Secretary of said Association shall have been examined. And four (4) members of either of said Boards shall constitute a quorum of such Board for the transaction of business and the granting of licenses.

"SEC. 924. The said Board of Pharmaceutical Examiners shall alone possess and exercise the powers of granting, withholding or vacating the license of pharmaceutists, apothecaries and druggists.

"SEC. 925. Every pharmaceutist, apothecary or retail druggist, who has not been previously licensed according to law, who carries on and conducts the business of such occupation in this State must have a license therefor from one of the above named Boards; and any person who shall carry on and conduct the business of said occupations, or any of them, without such license shall be liable to indictment as for a misdemeanor and on conviction subject to a fine not exceeding five hundred ($500) dollars or imprisonment not exceeding six months.

"SEC. 926. Before granting said license, except in cases hereinafter excepted, each applicant therefor shall undergo an examination by and before that Board to which the application is made, and of such nature as they shall require; but such examination must include the reading of manuscript prescriptions and explanations thereof, the discovery or detection of unusual doses of drugs, and especially poisons, the recognition and distinguishing of the various roots, barks, leaves, fruits, resins and gums in common use and the proper antidotes and mode of administration thereof for the different poisons.

"SEC. 927. No examination shall be required in case the applicant is a regular graduate in medicine or pharmacy of the Medical College of the State of South Carolina, or of a school of the same grade therewith, but such an applicant shall be entitled to a license upon furnishing evidence of his graduation satisfactory to either of the said Boards and upon the payment of a fee of five dollars ($5) for the license. In case tha applicant undergoes examination the charge for the same and granting the licenses shall not exceed ten dollars, one-half of which shall go to the Medical College of the State of South Carolina and the other half to the Pharmaceutical Association of the State of South Carolina.

"SEC. 928. It shall be the duty of the Pharmaceutical Association of the State of South Carolina to establish, carry on and preserve, in a book to be kept for the purpose, a register of all pharmaceutists, apothecaries and retail druggists in the State, including the names of persons registered, place of business, the fact whether the person registered be a graduate in medicine or pharmacy, or whether under license granted on examination, and any other matter of information the said Association may see fit to add.

"SEC. 929. It shall be the duty of all licensed pharmaceutists, apothecaries and retail druggists to have their names registered in manner aforesaid by the Pharmaceutical Association of the State of South Carolina, and to report annually, on or before the first day of November of each year, to the said Pharmaceutical Association of the State of South Carolina, whether any, and, if yea, what change has occurred within the then preceding year as to their respective places of business; and for omission or neglect of the requirements of this Section, or any

of them, they shall, respectively, incur a fine of twenty-five dollars; and for each and every registration or change thereof the party so registered shall pay to the Secretary of the Association the sum of one dollar.

"SEC. 930. The Pharmaceutical Association of the State of South Carolina shall make a correct report to the General Assembly of work done by them in accordance with the provisions of this Chapter, on or before the first day of December in each year.

"SEC. 931. Every phamaceutist or other person selling any poison shall be satisfied that the purchase is made for legitimate purposes, and shall keep a book in which shall be recorded every sale of the following articles, viz.: Arsenic and its preparations, all metallic cyanides and cyanides of potassium, tartar emetic, corrosive sublimate, aconite and its preparations, strychnine, and all other poisonous alkaloids and their salts, cantharides, ergot, hydrocyanic acid; the said record also to exhibit the name of the person to whom sold, place of his residence and purpose of purchase as stated; which book shall be kept at all times subject to the inspection of the Coroner of the County and the Solicitor of the said Association, or such other persons as either of them may designate.

"SEC. 932. All persons in this State engaged in business as pharmaceutists, apothecaries or druggists, either in the wholesale or retail of drugs, shall, to every bottle, vial, box or other package containing any poison named in the preceding Section, or any one or more of the following articles, viz.: Oxalic acid, chloroform, belladonna and its preparations, opium and all its preparations except paregoric, digitalis and its preparations, henbane and its preparations, hemlock or conium, or any other article that may be added to this list by the Pharmaceutical Association of the State of South Carolina, securely attach a label, whereon shall be either printed or legibly written with red ink the name of the poison and the name of at least one antidote, with brief directions as to the mode of using the same: *Provided*, That nothing herein contained shall be construed to apply to the filling of prescriptions made by regular physicians: *And provided, further*, That it shall be the duty of the Board of Pharmaceutical Examiners, on application at the time of registration, to furnish to the party registering a form of label for poisons.

"SEC. 933. Nothing herein contained shall prevent merchants and shopkeepers from vending or exposing for sale medicines already prepared: *Provided*, Such merchants and shopkeepers shall attach to the article sold a copy of the label attached thereto by wholesale druggists, and in the sale of poisons shall comply with the provisions heretofore stated.

"SEC. 934. It shall not be lawful for the proprietor of any pharmaceutical shop to allow any person not qualified in accordance with the provisions of this Chapter to dispense poisons or compound the prescrip-

tions of physicians; and any person who, upon indictment for a violation of this Section, shall be convicted of the same, shall pay a fine not exceeding five hundred dollars, or suffer imprisonment for a period of not more than six months.

"SEC. 935. The said Association is hereby authorized and directed to prosecute all persons violating the provisions of this Chapter, or any of them. In case any person convicted of violating any of the provisions of this Chapter be punished by fine, one-half of said fine shall be paid to the informer through whose agency such conviction shall be had.

ACT ESTABLISHING THE STATE QUARANTINE.

[*General Statutes, Section* 945, *et seq.*]

"SEC. 945. The site of the Lazaretto attached to the Quarantine Station in Charleston Harbor is changed from Morris Island to the point on James Island adjacent to Fort Johnson, upon the lands now the property of the State.

"SEC. 946. The station of the Health Officer of the Port of Charleston or his deputies shall be at a suitable point on Sullivan's Island, or at Fort Johnson, as may be thought best for the expeditious boarding and examination of vessels arriving from all ports into the harbor of Charleston; the location of said station to be determined upon by the Harbor Commission; and the necessary buildings shall be erected for the accommodation of the Health Officer and his deputies.

"SEC. 947. The anchorage ground for vessels at quarantine at the ports of Georgetown, Charleston and Hilton Head shall be designated by buoys, to be anchored under the direction of the Health Officers; and every vessel subject to quarantine shall, immediately on her arrival, anchor within them and there remain, with all persons arriving on her, subject to the examination and regulations imposed by law. For the purpose of quarantine, the port of Hilton Head shall be held to include the port of Beaufort. The quarantine anchorage for Port Royal harbor shall be not less than one mile below and South of the mouth of Johnson's or St. Helena River.

"SEC. 948. For the more certain prevention of the introduction of disease into the several ports of this State, every vessel arriving from a foreign port or from a suspected or infected port of the United States, shall immediately proceed to the Quarantine Station of the port of arrival and display a yellow flag or the vessel's ensign in the rigging, and shall be visited by the Quarantine Officer, between sunrise and sunset, as soon as possible after such arrival.

"All vessels which have had infectious or contagious diseases on board during the voyage or while in the port of departure, and also all vessels from infected or suspected latitudes or ports, shall be subjected to a detention of not less than five (5) days, or for such longer time as the constituted health authorities at the port of arrival may deem requisite, and pratique shall not be given to any such vessel until such vessel shall have been thoroughly disinfected and fumigated, the cargo and ballast having been first discharged.

"SEC. 949. All vessels and persons remaining at quarantine on the first day of November shall thereafter be subject to such quarantine and restrictions as vessels and persons arriving on and after that day.

"SEC. 950. All vessels arriving on and after the first day of November having had during the voyage a case of smallpox, cholera or typhus, or infectious or contagious disease, and every vessel from a foreign port having passengers, and not hereinbefore declared subject to quarantine, shall, on her arrival, be anchored at quarantine ground and be visited by the Health Officer or his deputies, but shall not be detained beyond the time requisite for due examination, unless she shall have had on board during the voyage some case of smallpox, typhus or other infectious or contagious disease, in which case she shall be subject to such quarantine as the Health Officer or his deputies shall prescribe. And it shall be the duty of the Health Officer or his deputies, whenever necessary for the public health, to cause the persons on board of any vessels to be vaccinated.

"SEC. 951. The Health Officers, Intendant and Wardens, or the Mayor and Aldermen, as the case may be, and in the port of Charleston the Harbor Commission, whenever in their judgment the public health shall require, may order any vessel at the wharves of either of said ports, or in their vicinity, to the quarantine ground or other place of safety, and may require all persons, articles or things introduced into said ports from such vessels to be seized, returned on board or removed to the quarantine ground or other place. If the master, owner or consignee of the vessel cannot be found, or shall refuse or neglect to obey the order of removal, the Health Officer, Intendant and Wardens, or Mayor and Aldermen, and in the port of Charleston the Harbor Commission, as the case may be, shall have power to cause such removal, at the expense of such master, owner or consignee, and such vessel or person shall not return to the port without the written permission of the Health Officer.

"SEC. 952. If any vessel arriving at the quarantine ground subject to quarantine shall be bound to some port North of either of said ports, the Health Officer, after having duly visited and examined her, may permit her to pass on her voyage; but no such vessel shall be brought

to anchor off either of said ports, nor shall any of her crew or passengers land in or hold any communication with either of said ports or any person therefrom.

"SEC. 953. The master of every vessel released from quarantine and arriving at a wharf in either of said ports shall, within twenty-four hours after such release, deliver the permit of the Health Officer at the office of the Mayor or Intendant, as the case may be.

"SEC. 954. Nothing in this Chapter shall prevent any vessel arriving at quarantine from again going to sea before breaking bulk.

"SEC. 955. It shall be the duty of each pilot belonging to either of the said ports to use his utmost endeavors to hail every vessel he shall discover entering the port, and to interrogate the master of such vessel in reference to all matters necessary to enable such pilot to determine whether, according to the provisions of the preceding Sections, such vessel is subject to quarantine or examination by the Health Officer.

"SEC. 956. If from the answers obtained to such inquiries, it shall appear that such vessel is subject to quarantine or examination by the Health Officer according to the preceding Sections, the pilot shall immediately give notice to the master of the vessel that he, his vessel, his cargo, crew and passengers are subject to such examination, and that he must proceed and anchor said vessel at the quarantine anchorage, there to await the further directions of the Health Officer.

"SEC. 957. It shall be the duty of every pilot who shall conduct into port a vessel subject to quarantine or examination by the Health Officer—

"1. To bring such vessel to anchor within the buoys marking the quarantine anchorage.

"2. To prevent any vessel or boat from coming alongside of the vessel under his charge, and to prevent anything on board from being transferred to or thrown into any other vessel or boat.

"3. To present to the master of the vessel a printed copy of this Chapter, when such copy shall have been delivered to him for that purpose.

"4. To take care that no violations of this Chapter be committed by any person, and to report such as shall be committed, as soon as may be, to the Health Officer.

"5. To subject himself to such detention and delay, and cleansing and purification as to his person and clothing, as shall be prescribed by the Health Officer, after having boarded or brought to the quarantine ground any vessel subject to quarantine.

"SEC. 958. It shall be the duty of the Health Officer to board every vessel subject to quarantine or visitation by him immediately on her arrival, between sunrise and sunset; to inquire as to the health of all persons on board and the condition of the vessel and cargo, by inspection of the

bill of health, manifest, log-book, or otherwise; to examine, on oath, as many and such persons on board as he may judge expedient to enable him to determine the period of quarantine and the regulations to which such vessel shall be made subject, and report the facts and his conclusions, and especially to report the number of persons sick, and the nature of the disease with which they are afflicted, to the Mayor or Intendant in writing.

"SEC. 959. It shall be the duty of the Health Officer to reside within or near the quarantine ground; and he shall have power—

"1. To remove from the quarantine anchorage ground any vessel he may deem dangerous to the public health to any place South or East of the quarantine ground, inside the bar.

"2. To cause any vessel under quarantine, when he shall judge it necessary for the purification of the vessel or her cargo, passengers or crew, or either of them, to discharge or land the same at the quarantine ground.

"3. To cause any such vessel or cargo, bedding and the clothing of persons on board to be ventilated, cleansed and purified in such manner and during such time as he shall direct; and, if he shall judge necessary to prevent infection or contagion, to destroy any portion of such bedding or clothing, and, with the concurrence of the Mayor or Intendant, any portion of such cargo which may be deemed incapable of purification.

"4. To prohibit and prevent all persons arriving in vessels subject to quarantine from leaving quarantine or removing their goods or baggage therefrom until fifteen days after the last case of pestilential, contagious or infectious disease shall have occurred on board and ten days after her arrival at quarantine, unless sooner discharged by him.

"5. To permit the cargo of any vessel under quarantine, or any portion thereof, when he shall judge the same free from infection and contagion, to be conveyed to the landing.

"6. To cause all persons under quarantine to be vaccinated when he deems it necessary for the preservation of the public health.

"7. To administer oaths and take affidavits in all examinations prescribed by this Chapter and in relation to any alleged violations of quarantine law or regulation; such oaths to have the like validity and effect as oaths administered by a Trial Justice.

"SEC. 960. The Health Officer may direct, in writing, any Sheriff or Constable to pursue and apprehend any person not discharged who shall elope from quarantine, or who shall violate any quarantine law or regulation, or who shall obstruct the Health Officer in the performance of his duty, and to deliver him to said officer, to be detained at quarantine until discharged by said officer; but such confinement shall in no case exceed ten days. It shall be the duty of the Sheriff or Constable so directed to obey such direction; and every such person so eloping, or vio-

lating quarantine law or regulations, or obstructing the Health Officer, shall be considered guilty of a misdemeanor, punishable with fine and imprisonment, in the discretion of the Court.

"SEC. 961. Every vessel during her quarantine shall be designated by colors, to be fixed in a conspicuous part of her main shrouds.

"SEC. 962. No vessel or boat shall pass through the range of vessels lying at quarantine or land at the quarantine grounds without the permission of the Health Officer.

"SEC. 963. No lighter shall be employed to load or unload vessels at quarantine without permission of the Health Officer and subject to such restrictions and regulations as he shall impose.

"SEC. 964. All persons being on board of vessels under quarantine shall be provided for by the master of the vessel in which they shall have arrived; and if the master shall omit or refuse to provide for them, or they shall have been sent on shore by the Health Officer, they shall be maintained at the expense of such vessel, her owners, consignees, and each and every one of them; and the Health Officer shall not permit such vessel to leave quarantine until such expenses shall have been repaid or secured; and the said Health Officer shall have an action against such vessel, her owners and consignees, and each and every one of them, for such expenses, which shall be a lien on such vessel, and as such may be enforced as other liens on vessels.

"SEC. 965. The Health Officer, upon the application of the master of any vessel under quarantine, may confine in any suitable place on shore any person on board of such vessel charged with having committed an offense punishable by the laws of this State or the United States, and who cannot be secured on board of such vessel; and such confinement may continue during the quarantine of such person, or until he shall be proceeded against in due course of law; and the expense thereof shall be charged and collected as in the last preceding Section.

"SEC. 966. Any person aggrieved by any decision, order or direction of the Health Officer may appeal therefrom to the Governor, Attorney General and Comptroller General, who shall constitute a Board of Appeal. The said Board shall have power to affirm, reverse or modify the decision, order or direction appealed from, and the decision of the Board thereon shall be final.

"SEC. 967. An appeal to the Board of Appeal must be made by serving upon the Health Officer a written notice of such appeal, within twelve hours after (Sundays excepted) the appellant receives notice of the order, decision or direction complained of. Within twelve hours after the Health Officer receives such notice (Sundays excepted) he shall make a return in writing, including the facts on which his order, decision or direction was founded, to the Governor, who shall immediately

call a meeting of the Board of Appeal, and shall be President of said Board; and said appeal shall be heard and decided within twenty-four hours thereafter (Sundays excepted); and until such decision is made, the order, decision or direction complained of, except it refer to the detention of a vessel, her cargo or passengers at quarantine, shall be suspended.

"SEC. 968. Whenever the said Health Officer, in the performance of the duties and in the execution of the powers imposed and conferred upon him by law, shall order or direct the master, owner or consignee of any vessel under quarantine to remove such vessel from her anchorage, or to do any act or thing, or comply with any regulation relative to said vessel, or to any person or thing on board thereof, or which shall have been brought to said ports therein, and said master, owner or consignee shall neglect or refuse to comply with such order or direction, the said Health Officer shall have power to employ such persons and assistants as may be necessary to carry out and enforce such order or direction, and the persons so employed shall have a lien on such vessel, her tackle, apparel and furniture, for their services and expenses.

"SEC. 969. All masters of vessels or other persons violating any of the provisions of this Chapter, or disobeying any of the published regulations of the health authorities of any port, and all persons whosoever who shall, without permission of said authorities, invade the quarantine grounds or station of such port, or who shall hold any communication or attempt to hold any communication with any vessel, or any officer, or any passenger, or member of the crew of any vessel lying at the quarantine or under control of the said authorities, shall be guilty of a misdemeanor and upon conviction shall be punished by fine not exceeding two thousand dollars, or by imprisonment not exceeding twelve months, or both, in the discretion of the Court.

"SEC. 970. The South Carolina Medical Association, in its corporate capacity, with the Comptroller General and the Attorney General of the State, constitute the State Board of Health, and as such shall be the sole adviser of the State in all questions affecting the public health within its limits.

"The State Board of Health shall supervise and control the quarantine system of the State. They shall annually, or more often if necessary, require reports from the Health Officers, in such form as may be prescribed, in all matters pertaining to quarantine. They are authorized to establish quarantine by land or sea, under the advice and with the consent of the Governor.

"SEC. 971. The Governor may issue his proclamation declaring any place where there shall be reason to believe a pestilential, contagious or infectious disease exists, or may exist, to be an infected place, within the

meaning of this Chapter, and may make such regulations as may be necessary in order to prevent the entrance or spread of Asiatic cholera into or in this State.

"SEC. 972. Such proclamation shall fix the period when it shall cease to have effect; but such period, if he shall judge the public health require it, may from time to time be extended, and notice of the same shall be published in all the newspapers of said port.

"SEC. 973. After such proclamation shall have been issued, all vessels arriving in either of the said ports from such infected place shall be subject to the same quarantine laws and regulations as the vessels embraced in the first subdivision of the second Section of this Chapter, and shall, together with their officers, crews, passengers and cargoes, be subject to all the provisions, regulations and penalties of this Chapter, in relation to vessels subject to quarantine; but such quarantine shall not extend beyond the period when such proclamation shall cease to have effect, as provided by the last preceding Section.

"SEC. 974. Every master of a vessel subject to quarantine or visitation of the Health Officer, arriving in either of the said ports, who shall refuse or neglect either—

"1. To proceed with and anchor his vessel at the placed assigned for quarantine at the time of his arrival;

"2. To submit his vessel, cargo and passengers to the examination of the Health Officer, and to furnish all necessary information to enable that officer to determine to what length of quarantine and other regulations they ought, respectively, to be subject; or

"3. To remain with his vessel at quarantine during the period assigned for the quarantine, and while at quarantine to comply with the directions and regulations prescribed by law—shall be guilty of a misdemeanor, and be punished by fine not exceeding two thousand dollars, or by imprisonment not exceeding twelve months, or by both such fine and imprisonment.

"SEC. 975. Every master of a vessel hailed by a pilot who shall either—

"1. Give false information to such pilot relative to the condition of his vessel, crew or passengers, or of the health of the place or places from whence he came, or refuse to give such information as shall be lawfully required;

"2. Or land any person from his vessel, or permit any person except a pilot to come on board of his vessel, or unlade or tranship any portion of his cargo before his vessel shall have been visited and examined by the Health Officer;

"3. Or shall approach with his vessel nearer to the wharves in said ports than the place of quarantine to which they may be directed—shall

be guilty of the like offense and subject to the like punishment; and any person who shall land from any vessel, or unlade or tranship any portion of her cargo, under like circumstances, shall be guilty of a like offense and subject to the like punishment.

"SEC. 976. Any person who shall violate any provision of this Chapter, or neglect or refuse to comply with the directions and regulations which any of the Health Officers may prescribe, shall be guilty of the like offense, and be subject for each offense to the like punishment.

"SEC. 977. The administration of quarantine of the port of Charleston shall be in charge of the Board of Health of the city of Charleston, subject to the advice and supervision of the Executive Committee of the State Board of Health, and they shall have full power and authority to make such rules and regulations for the institution and enforcement of quarantine as they may deem expedient and as may be conformable to law.

"The Quarantine Officer of the port of Charleston shall be appointed by the Governor on the nomination of the Board of Health of the city of Charleston. He shall be invested with all powers and authority heretofore conferred by law upon the Health Officer of the port of Charleston, and he shall exercise such powers and authority under the direction and control of the said Board of Health of the city of Charleston. He shall receive a salary from said Board at the rate of fifteen hundred dollars per annum and he shall reside at the quarantine station. He shall be appointed during the month of January of each year and hold his office for one year, and until his successor shall be appointed, unless sooner removed by the Governor, at the request of the Board of Health of the city of Charleston, or for other reasons satisfactory to him.

"For the purpose of carrying out the provisions of this Chapter with regard to the port of Charleston the sum of two thousand five hundred dollars shall be annually appropriated, to be paid by the State Treasurer, on the order of the Chairman of the Board of Health of Charleston.

"The ports of the State which are not specifically provided for in this Chapter shall remain under the supervision and control of the Executive Committee of the State Board of Health, and a quarantine officer shall be appointed at each of the said ports, who shall be vested with the powers and authority heretofore by law conferred upon the Health Officer, and shall exercise the same under the direction and control of the Executive Committee of the State Board of Health, or such local Board as the Executive Committee of the State Board of Health may appoint for that purpose. He shall return to the said Executive Committee, or to the said local Board, all fees collected by him and shall receive for his services annually the following, to wit:

"Quarantine Officer of the port of Georgetown, five hundred dollars and one hundred and fifty dollars for boat hire.

"Quarantine Officer at St. Helena entrance, eight hundred dollars and one hundred and fifty dollars for boat hire.

"Quarantine Officer at Port Royal, eight hundred dollars and one hundred and fifty dollars for boat hire.

"He shall be appointed by the Governor, on the recommendation of the Executive Committee of the State Board of Health, during the month of January of each year, and hold his office for one year, and until his successor shall be appointed, unless sooner removed by the Governor at the request of the Executive Committee of the State Board of Health, and shall reside at the quarantine station.

"SEC. 978. Wherever the words 'Health Officer' occur in this Chapter, they shall be understood to mean the Health Officer or his deputies: *Provided*, That said deputies shall, in all cases, be graduates of a regular medical school.

"SEC. 979. Every pilot or other person who shall bring, or attempt to bring, or cause to be brought into any port of this State any vessel, or the whole or any part of the crew, passengers or cargo, beyond the places appointed for her examination, without such vessel being examined according to law, shall forfeit and pay, the one-half to the use of the State and the other half to the use of such person as shall sue for the same, the sum of five hundred dollars; and the pilot shall, moreover, be deprived of his branch as a pilot: *Provided*, That nothing herein contained shall extend to persons who may be shipwrecked.

"SEC. 980. The officer or officers who may be entrusted with the execution of the quarantine laws are authorized and directed, in case of a violation or attempt to violate any of the said laws, to board by force of arms any vessel used in such violation or attempt to violate, and to detain her and her crew and passengers.

"SEC. 981. Any vessel which shall be restrained under quarantine laws and shall attempt to violate the same may be fired upon and detained by force of arms.

"SEC. 982. When the Governor may deem it necessary, he shall, at the expense of the State, hire and employ boats and small craft, and a sufficient number of able men well armed, to be stationed wherever he may think fit, and to act under his directions, in order to enforce obedience to the laws of this State requiring the performance of quarantine; and, also, to arm such men, if requisite, with any fire arms belonging to this State.

"SEC. 983. All fines and forfeitures and penalties provided by the laws of the State for the violation of the quarantine laws, or disobedience of the orders of the Governor establishing quarantine regulations,

shall be recovered by indictment in the Court of Sessions; and all persons offending against the same, upon conviction, shall be liable to imprisonment not exceeding twelve months, in addition to such fines, forfeitures and penalties.

ACT IN RELATION TO DENTISTS AND THE PRACTICE OF DENTISTRY.

[*General Statutes, Section* 936, *et seq.*]

"SECTION 936. No person can engage in the practice of dentistry in this State unless he shall have received a diploma from the Faculty of some dental college, duly incorporated under the laws of this or some other State of the United States, or foreign government, in which is annually delivered, in good faith, a full course of lectures and instructions in dentistry, or shall have obtained a license from a Board of dentists as herein provided.

"SEC. 937. The South Carolina Dental Association shall elect a Board of Examiners, to consist of five members, to be known by the title of the Board of Dental Examiners in the State of South Carolina. The members of this Board shall be elected for terms of one, two, three, four and five years respectively, or until their successors shall have been elected. The South Carolina State Dental Association, at each annual meeting thereof, shall elect a person for the term of five years to fill the place of the member of the Board whose term of office shall at that time expire, and shall also fill such vacancies in the Board as may have occurred during the year. If at any regular meeting of the Board any member or members shall fail to be present, the South Carolina State Dental Association may, at its discretion, declare the office of such absentee to be vacated, and may proceed to elect a new member or members for the unexpired term of such person or persons, or it may elect a member or members to fill temporarily the place or places of such absentees. This Board shall be organized by the election of a President and a Secretary.

"SEC. 938. The Board of Examiners shall meet annually at the time and place of meeting of the South Carolina State Dental Association, giving thirty days' notice in the public newspapers published in not less than three different places in the State, viz: One in Charleston, one in Columbia and one in Greenville, of such annual meeting; shall prescribe a course of reading for those who study dentistry under private instructions; shall grant a license to any applicant who shall furnish satisfactory evidence of having graduated and received a diploma from any incorporated dental college in good standing with the profession, without fee, charge or examination; shall grant licenses to all other applicants who undergo a satisfactory examination; shall keep a book in which

shall be registered all persons licensed to practice dentistry in the State of South Carolina; the expenses of said license shall be fifteen dollars, to be paid by the licensee. All persons who do now hold or may hereafter hold a license to practice dentistry in this State shall become a member of the South Carolina State Dental Association immediately upon the obtaining of said license: *Provided*, He shall be allowed to waive his right of membership.

"SEC. 939. The book so kept shall be a book of record, and a transcript from it, certified by the officer who has it in keeping, with the common seal, shall be evidence in any Court of the State.

"SEC. 940. Three members of said Board shall constitute a quorum for the transaction of business; and should a quorum not be present on the day appointed for their meeting, those present may adjourn from day to day until a quorum is present.

"SEC. 941. One member of said Board may grant a license to an applicant to practice until the next regular meeting of the Board, when he shall report the fact, at which time the temporary license shall expire; but such temporary license shall not be granted by a member of the Board after the Board has rejected the applicant.

"SEC. 942. Every dentist in this State shall keep a record of all cases treated in his practice, in accordance with a form to be designated by the South Carolina State Dental Association, and furnish his patient with a copy of the same if so desired by the patient.

"SEC. 943. Any person who shall in violation of this Chapter practice dentistry in the State of South Carolina for fee or reward shall be liable to indictment, and on conviction shall be fined not less than fifty or more than three hundred dollars: *Provided*, That nothing in this Section shall be so construed as to prevent any person from extracting teeth. All fines collected shall enure to the educational fund of the County where the offender resides.

"SEC. 944. The South Carolina State Dental Association is a body politic and corporate; may have and use a common seal, sue and be sued, plead and be impleaded, and be empowered to make all necessary by-laws not inconsistent with the State laws and Constitution.

ACT ESTABLISHING THE HARBOR COMMISSION.

[*General Statutes, Section* 984.]

"SEC. 984. The Harbor Commission shall control all quarantine stations and buildings in Charleston harbor, shall designate and fix the location thereof, and shall make such regulations respecting the same as will

secure the thorough and complete enforcement of the quarantine laws of the State, in no way, however, limiting or encroaching upon the powers and duties of the State Board of Health.

"SEC. 985. The following uniform schedule of charges is hereby adopted for quarantine dues at all ports of the State, the amount collected to be expended for the more effective enforcement of quarantine at each port, to wit:

For every vessel boarded and inspected	$ 5 00
For every vessel of 100 tons or less, fumigating and disinfecting, each process	15 00
For every vessel over 100 tons and less than 250 tons, fumigating and disinfecting, each process	20 00
For every vessel over 250 tons and less than 500 tons, fumigating and disinfecting, each process	30 00
For every vessel over 500 tons and less than 750 tons, fumigating and disinfecting, each process	40 00
For every vessel over 750 tons and less than 1,000 tons, fumigating and disinfecting, each process	50 00
For every vessel over 1,000 tons and less than 1,250 tons, fumigating and disinfecting, each process	60 00
For every vessel over 1,250 tons, fumigating and disinfecting, according to tonnage of vessel, each process	$70 00 to 100 00

In all cases the Quarantine Officer will collect the charges made against vessels before giving permission to leave quarantine, either by Captain's draft on consignee or in currency, and shall return the same to the Board charged with the administration of the quarantine at such port, who shall be responsible for the disbursement of the same.

ACT RELATING TO LUNACY AND LUNATICS AND THE STATE LUNATIC ASYLUM.

[*General Statutes, Section* 1584, *et seq.*]

"SECTION 1584. The Governor shall appoint nine Regents of the Lunatic Asylum, who shall hold their offices for six years from the day of appointment, except upon the occurrence of a vacancy in the Regency, when the Governor shall fill the same by an appointment for the unexpired term only.

"SEC. 1585. The said Regents, by the name of "The Regents of the Lunatic Asylum of South Carolina," shall form a body corporate in deed and in law, for all the purposes of the said institution, with all the

powers incident to corporations; and they shall be, and they are hereby, authorized and empowered to make and establish all rules, regulations and by-laws for the government of the institution, which, when made, shall be reported to the next Legislature for their approval or rejection, but, until rejected by the Legislature, shall be in force; and to fix the amount of the salary or emoluments of the keeper, officers or medical attendants; to establish the rates of admission, maintenance and medical attendance of all the subjects of the said institution, providing such rates as shall support the institution without any charge on the Treasury of the State.

"SEC. 1586. It shall be the duty of the Regency to admit as subjects of the institution all idiots, lunatics and epileptics being citizens of this State, according to the following regulations and subject to the following conditions, that is to say:

"1. All persons who shall be found idiots or lunatics by inquisition from the Probate or Circuit Courts, or on trials in the Circuit where the Court shall order such admission.

"2. Where it shall be requested under the hand of the husband or wife, or (where there is no husband or wife) of the next of kin of idiot or lunatic.

"3. All persons who shall be declared lunatics, idiots or epileptics, after due examination by one Trial Justice and two licensed practicing physicians of the State. Where the subject is a pauper, the admission shall be at the request of the County Commissioners of the County wherein such pauper has a legal settlement; otherwise the admission shall be at the request of the husband or wife, or, where there is no husband or wife, of the next of kin of the idiot, lunatic or epileptic.

"SEC. 1587. All idiots and lunatics from any of our sister States shall be admitted on such evidence of their lunacy or idiocy as the Regents regard sufficient; but no foreign lunatic or idiot shall be admitted or kept in the institution to the exclusion of subjects being citizens of this State; and they shall pay the same rates as citizen subjects.

"SEC. 1588. Whenever a Judge of Probate or Judge of the Circuit Court shall direct an order to any Trial Justice to inquire as to the idiocy, lunacy or epilepsy of any person, or when information on oath shall be given to any Trial Justice that a person is an idiot, lunatic or epileptic, and is chargeable for his support on the County, it shall be the duty of such Trial Justice forthwith to call to his assistance two licensed practicing physicians and examine such person and the evidence of his or her idiocy, lunacy or epilepsy; and if, after full examination, they shall find such person an idiot, lunatic or epileptic, they shall certify to the said Judge, or to the Board of County Commissioners, whether, in their opinion, such person is curable or incurable, and

whether his enlargement would be harmless or dangerous or annoying to the community; and thereupon the Judge or the Board of County Commissioners, in his or its discretion, may make an order that the said person shall be sent to the Lunatic Asylum.

"SEC. 1589. Any Judge of the Circuit Court is authorized to send to the Lunatic Asylum every person charged with the commission of any criminal offense who shall, upon the trial before him, prove to be *non compos mentis;* and the said Judge is authorized to make all necessary orders to carry into effect this power. Where the person so sent is not a pauper, he shall be supported out of his own estate, according to regulations to be prescribed by the Court, as on a return to a writ *de lunatico inquirendo.*

"SEC. 1590. The Judge of the Probate Court may commit to the Lunatic Asylum any idiot, lunatic or person *non compos mentis* who, in his opinion, is so furiously mad as to render it manifestly dangerous to the peace and safety of the community that he or she should be at large, and also in all such other cases provided by law. In all cases the Judge shall certify in what place the said person or persons resided at the time of the commitment, and such certificate shall be conclusive evidence of such residence.

"SEC. 1591. No lunatic, idiot or epileptic who may be declared a fit subject for the institution by a Trial Justice and two physicians, or who shall be sent from a sister State, shall be retained in the institution more than ten days after his admission, except where there shall be entered in the record of the institution an order for his retention, made, after full examination of his state of mind, by the medical attendant or attendants and not less than three of the Regents; and upon such order being made it shall be the duty of the Secretary of the Regency to make out a certified copy of the declaration of the Trial Justice and physicians and of the order of retention and immediately send the same to the Judge of Probate of the County wherein such lunatic, idiot or epileptic shall reside, who shall thereupon make such order in relation to the custody of the estate of the said subject as would have been made had the proceedings been under a writ *de lunatico inquirendo.*

"SEC. 1592. Transient paupers, lunatics, idiots or epileptics sent to the Asylum by virtue of the existing laws shall be supported at the expense of the State, and the Regents are hereby authorized to draw from the Treasury for every such lunatic one hundred and thirty-five dollars per annum. And it shall be the duty of the Regents to report specially to every Legislature the whole number of this class of lunatics, idiots or epileptics while they remain a charge upon the public Treasury.

"SEC. 1593. No subject shall be admitted into the institution until one-half year's expense of maintenance and medical attendance there

shall be paid to the Treasurer of the Regency, and a bond and good security shall be given to pay the said expenses half yearly, in advance, so long as the subject remains in the institution, and to pay all funeral charges in case of his death; but such bond shall not be required of the County Commissioners sending a pauper subject to the institution: *Provided*, That the Regents shall not be required to exact half yearly advances for the admission into the Asylum of such subjects as may be deemed curable and likely to be speedily discharged, but only such advances as they may deem the nature of the case to require. In case the half yearly advances are not paid the bond shall be immediately put in suit.

"SEC. 1594. Whenever any lunatic or epileptic shall have recovered it shall be the duty of the Regents to discharge him or her from the Asylum.

"SEC. 1595. The County Commissioners of the various Counties in the State shall remove their imbeciles from the Sate Lunatic Asylum, upon due notice from the Superintendent to the said County Commissioners as to the number of imbeciles confined in the institution from their respective Counties, and shall take care of all such persons in their respective County Poor Houses.

"SEC. 1596. It shall be the duty of the Regents to remove from office and cause to be indicted any person employed in the said institution who shall assult any idiot, lunatic or epileptic, or use towards any such idiot, lunatic or epileptic any other or greater violence than may be necessary for his or her restraint, government or cure.

"SEC. 1597. The Regents shall report annually to the Legislature the state and condition of the institution, fully and particularly; and they shall also annually report to the Comptroller General the amount of income of said institution, and the amount of expenditures and the items thereof.

"SEC. 1598. The lot upon which the Lunatic Asylum stands, containing four acres, butting and bounding on Upper Boundary, Bull, Pickens and Sumter streets, is vested in the Board of Regents of said Asylum and their successors in office, for the uses and purposes of the Asylum.

"SEC. 1599. The Board of Regents of the Lunatic Asylum are authorized to close up and use for the purpose of said Asylum so much of Pickens street, in the city of Columbia, as lies between Lumber and Upper streets of said city, to retain such portion of Upper street as they have already enclosed, and also to close that part of Upper street, in the plan of the said city, lying between Henderson and Barnwell streets, and adjacent to the Asylum grounds.

"SEC. 1600. All guards, keepers, employees and other officers employed at the Lunatic Asylum shall be exempted from serving on juries and from all military, road or street duty.

"SEC. 1601. All officers now authorized by law to send insane persons to the Lunatic Asylum shall, before sending such insane person to the Asylum, notify the Chairman of the Board of County Commissioners, or the Clerk of such Board, that such person should be sent to the Lunatic Asylum, having first had such lunatic, if of dangerous or violent character, so secured as not to do any damage or injury; and the County Commissioners shall, as early as practicable, ascertain whether or not such insane person should be sent to the Asylum as a beneficiary, or as one to be only in part supported by the State, or as a pay patient; and they shall also investigate the pecuniary condition of all beneficiary lunatics from their respective Counties now in the Asylum; and they shall have the right to call upon the Solicitors of their Circuit for all assistance in law to the carrying out of their duties herein: *Provided*, That no portion of the corpus of any estate belonging to such patient shall be taken for the current support of such patient.

"SEC. 1602. If the County Commissioners shall send to the Lunatic Asylum any person who can be now made to pay out of his or her income for his or her support, and shall knowingly or willfully make a false report upon the condition of any person sent by such officer now authorized by law to send insane persons to the Asylum, such Commissioners shall, upon due conviction thereof, be deemed guilty of a misdemeanor, and be punished by a fine not exceeding two hundred dollars, and the bond of such County Commissioner shall be liable for such fine.

"SEC. 1603. Nothing herein contained shall be held in any manner to apply to the entrance of pay patients into the Asylum as now provided by law."

ON THE HYGIENE OF SCHOOLS.

By B. W. Taylor, M. D.,

Chairman Standing Committee on the Sanitary Regulation of Schools and Executive Committee State Board of Health.

Education is defined as comprehending " all that series of instruction and discipline which is intended to enlighten the understanding, correct the temper and form the manners and habits of youth and fit them for usefulness in their future stations;" and, we should add, last, but not least, physical culture, which is " giving strength, health and vigor to the bodily organs and powers."

We would therefore say education begins with the infant, as all of our aims should be so to rear the child that he may have a healthy body, which is necessary to a sound and vigorous mind. He must be kept a child and encouraged to delight in childish sports, and not associate mainly with older persons, which will develop in him a precocious intelligence and want of simplicity.

To insure a proper development, he must be provided with pure air, when awake as well as when asleep, for the necessary changes in his body depend upon the oxygen present in the air. Perfect ventilation, therefore, of dwellings is absolutely necessary, as impurities in the air often cause disease or lower the vital power of the body.

Pure water is as essential as proper food, and he, like plants, needs Nature's vivifier—sunlight. Do not understand by sunlight, daylight seen through closed shutters, but it is the full rays of the sun upon the body for hours and not for a few moments.

Thus " mental and physical work must be so apportioned that repair shall exceed waste and a margin left for development."

The teacher should consider himself responsible for the physical as well as the mental culture. The outdoor exercises should be a matter of care and so directed as to ensure movement of all the muscles of the body.

Then after the day's labor comes sleep, which should be for not less than nine hours, for at that time nature intends us to indulge in that restorer of our powers. To turn night into day is to deprive ourselves of nature's bounty and give a rest which poorly compensates for the loss of those hours for sleep.

The sexes up to a certain age can be educated alike without detriment to health—during those years when the elementary branches are taught and the pupil is drilled into the mode and manner of studying.

When puberty approaches, it is then we are to take seriously into consideration that function peculiar to the female, namely, menstruation, which from the age of fourteen to nineteen includes the building of the reproductive apparatus.

When we consider that a woman's health, and consequently her happiness in life, depends upon the proper performance of this function, we may well see how important it is, and how great the responsibility of parent and teacher to aid nature in its work. There are times in each month that the female should be freed from all labor and study, even in those instances where the party is robust, as nature is incapable of carrying on at the same time the exercises of the mind or body and that peculiar function.

It is the rule with us that the intellectual faculties of girls are stimulated at the expense of their physical powers; for how different are the latter in our girls "from the negress or Indian squaw. In these races we find the female capable of performing equal physical labor and enduring as much as the male. Whereas the artificial life which civilization has entailed upon our females has depreciated their powers of endurance and capacity to resist disease."

It is believed that each school should have taught so much physiology as is needed to a proper understanding of the structure of the human body, and so much of sanitation as will enable them to keep that structure in a healthy condition. Should teacher and scholar understand these laws there would be less tendency of intellectual culture and artificial development of the nervous tissues at the expense of the body.

"Mental work is more fatiguing than that of the body, as the former tends to depress the vital functions, whereas the latter works out its own repairs, by giving an appetite for food which will repair the loss." Velpeau, the great French physician, truly said: "Once destroy the balance between the mental and physical condition, whatever you gain in intellect you pay in tubercles." "Illness is a heritage of the past, whether it comes to us by our own misconduct or by family influence."

On the subject of female education too much cannot be said, as our whole system is at fault. Between the ages of fourteen and eighteen we crowd study upon study on her, as these are her last years at school and she must accomplish so much in a given time. It matters not whether she loses flesh, grows pale and ceases menstruating—that is of no consequence; she must reach the goal she is seeking after. Health is of no consequence; she is supposed to regain that hereafter. Her teacher sees in her a great advertisement—one whom they can refer to with pride as a graduate of the school. Little do they realize that all this is but laying up ill health and misery for this loved one. Should she live to become a wife and a mother, she has not the strength or the nourishment

to give such to her child, or the constitution to perform her duties as mistress of an establishment. As wife, she fails to be a helpmate; as mother, her offspring is feeble, nervous, hysterical and prone to disease, and kept alive by artificial means.

This, no doubt, will be considered as an overdrawn picture; but ask your physician how many women of to-day are prepared physically to become mothers—that is, give suck to her child, retain her health and perform what manual and mental labors are required of her, without her health giving way.

The increase of the diseases of women to-day are due to the inheritance of feeble constitution, a want of proper physical development, and the education of the mind at the expense of the body. When once we realize this, we have made one step towards remedying the evils of our system.

We learn that in one of the most fashionable boarding schools of the South, it is the rule for every girl to cease menstruating at the beginning of school and this function is not resumed until they return home. The Principal of the school thinks this is of no consequence, and says the requirements and regulations of the school are such as to bring about this state of affairs. In other words, nature's laws are set aside without a moment's thought whether such will be of detriment or not.

Now, we may well ask, what are the injurious influences of the school? These are they:

SHORTSIGHTEDNESS.

Competent German authorities have examined the eyes of the pupils of a number of schools and found that there were from 10 to 17 per cent. not normal sighted, and there was a regular increase as we ascend into the higher schools, as follows:

Village schools	1.4 per cent.
City elementary schools	6.7 "
Higher girl schools	7.7 "
Intermediate schools	10.3 "
Technical	19.7 "
Gymnasium	26.2 "
Students	60.0 "

Now, so far as the school room is responsible for this increase of shortsightedness, it is due to bad lights, small print and improper position when seated.

"The light should be admitted from left to right, and never in front of the pupils' faces nor behind, as the first dazzles the eyes and is apt to

produce fatigue and inflammation, and the last to make the pupil short-sighted, as they sit in their own light. All windows should be fitted with rolling blinds."

The immovable desk and benches are positively injurious, since they compel the scholar to look closely at his writing and with the head bowed down over the desk. "The result is the eyeball is elongated in a backward direction by the action of its muscles, and the inclined position of the head produces an overfilling of the pupil of the eye with blood, and both conditions together cause shortsightedness."

POSITION OF PUPILS.

The proper position for the pupil to assume in school cannot be too forcibly dwelt upon, as so many evils arise from its non-observance. To accomplish this it is first necessary to have proper seats and desks. A desk for a child of seven is not fit for a person of seventeen years.

A school room without furniture suitable to all heights and ages can no more be called a school room than a room without a library or newspapers can be called a reading room. The teacher who undertakes to conduct a school without proper furniture does not appreciate his responsibilities to the parents of the pupils, as by so doing he may cause deformity, disease and death.

What we mean by sitting improperly is that one holds his head aside, another rests upon his arm; a third hides, as it were, his head between his shoulders; some lean upon the forearm; others kneel. Now to what does all this lead? Certainly not to the straight and erect figure of the savage, but to curvature of the spine, enfeebled digestion, compression of the chest, and consequently prevents free development of the respiratory organs, congestions of blood to the head, causing headache, bleeding of the nose, and from obstruction of the venous circulation goitre arises.

A child to be seated comfortably should be so placed that his back may be rested, and his limbs, being placed at right angles with his body, may be rested also.

"Looking at the height of the table and the seat, it will be found that the child slips forward, as it were, on the edge of the seat, that his feet may rest on the ground; so that, in fact, he is sitting on the angle of the seat which ought to support the weight of the body, and this explains the fact that the child moves one leg forward and the other backward, in order to render his position less uncomfortable. Hence the constant shuffling of feet in a school room, to the annoyance of teacher and scholar."

When there is too great distance between the seat and the desk, the pupil is compelled to rest on the edge of the stool and lean forward on the desk, and thus compress the chest and prevent the pupil from holding himself properly.

"When a child is comfortably seated, the table ought to come to the *pit* of the *stomach*, that is, a little below the breastbone; for in this position the elbow will fall naturally on the table, the arm will fall by the side of the body and be at right angles with the forearm, and this is the best and easiest position."

We will insert a table published by Dr. Guillaume, giving the requisite height of seat in proportion to the height of scholar:

Height of Pupil.	Height of Table.	Height of Stool.	Height of Back.
ft. in. ft. in.	Inches.	Inches.	Inches.
3.0 to 3.3	16.0	8.8	11.6
3.3 to 3.6	17.4	10.0	12.7
3.6 to 3.9	18.7	11.2	14.0
3.9 to 4.2	20.1	12.2	15.2
4.2 to 4.5	21.4	13.2	16.5
4.5 to 4.8	22.7	14.4	17.7
4.8 to 5.1	24.1	15.5	19.0
5.1 to 5.4	25.5	16.6	20.3

He further says: "That in no instance ought the distance of the seat from the table to be more than an inch and a half. The seat should be convex to support the loins and slightly concave at the shoulder blades."

There still remains one thing in connection with the school which it is incumbent upon us to notice, viz.: the possibility of pupils conveying contagious disease and thus being the instrument of causing suffering and death to others.

It appears to us that teachers in a great part ignore their responsibility to parents, in reference to their children contracting diseases from other pupils, thinking acquaintance with diseases is no part of their school duty and that physicians are entirely responsible for these matters. If School Boards had appointed medical inspectors of schools whose duties were closely to watch all that pertained to the pupil in a medical sense, or if every case of indisposition or sickness in the child was referred to the family physician, their view of the case would be proper. But such not being the case with us, it is the part of the teacher to inquire into the cause of the sickness of each pupil, and when con-

tagious diseases exist in a family the children from that family should for the time be excluded from school, and before being allowed to resume their school duties should present the certificate of a physician as to their inability to convey disease.

There are certain contagious diseases which often present so mild a form as to escape both parent and teacher, and yet when contracted by others may become malignant. Thus the milder forms of "diphtheria," whether appearing in the nose or on an abrasion of the skin or in the throat, may produce so little constitutional disturbance as to escape notice. So also with "whooping cough," which is often looked upon as a disease not sufficiently dangerous to guard against, but which in reality destroys a large number of children; and so with the milder form of other contagious diseases.

In order to show that our views on this subject are not extreme, we will give below the conclusions arrived at by the French Academy of Medicine in regard to the duration of isolation of subjects of contagious diseases:

1st. Pupils affected with smallpox, scarlet fever, diphtheria or measles should be strictly isolated from their comrades for forty days; for chicken pox and mumps, twenty-five days.

2d. Isolation should last until after the patient has been bathed.

3d. The clothing worn by the patient at the time he was taken sick should be subjected to a temperature of 194 degrees and to sulphur vapor and then scoured.

4th. The bedding, furniture and curtains of the sick room should be thoroughly disinfected, washed and aired.

5th. The pupil of a school, after recovering from one of the above contagious diseases, should not be readmitted to the school unless furnished with a certificate of a physician stating that the above precautions have been observed.

We have endeavored to present most of the evils which may arise from attendance at school in order to place teacher and parent on their guard and thus to avoid them. All the good, mentally and morally, which is acquired by the pupil in the daily training by his teacher we shall leave to the educator to depict, as our duty as a sanitarian ends when we point out the possible causes and the modes of prevention of disease. Don't for a moment suppose we are waging a crusade against school life, but rather think we are stripping it of its dangers and thereby increasing the number of those who attain the age of maturity and are a living monument to their instructors.

Should this paper be the cause of saving one life it will amply repay the writer.

The Injurious Effects of the Improper Use of the Sewing Machine Upon Women and How to Avoid Them.

By W. T. C. Bates, M. D., of Columbia, S. C.

At the request of the Executive Committee of the State Board of Health, I have reflected upon the above subject and will endeavor to make public some thoughts relating to it.

In none of the text books upon diseases of women have I found the use of the sewing machine pointed out as a cause of uterine disease. Yet, upon reflecting and calling to mind the observations made and the remarks heard from time to time in my daily associations with the public, I am convinced that a great many ills are unjustly attributed to the use of the sewing machine.

It is quite the custom with some physicians to hastily utter their edicts against the use of the sewing machine. Among ladies who deny themselves fresh air and wholesome exercise, who commit improprieties in dress, who commit the greatest imprudence during menstruation, whose nervous systems are excessively developed, and who think nothing of lifting heavy sashes and handling weighty children and other such improper things, it is quite the custom to regard the sewing machine as the cause of their backache, weariness, headache, &c.

I believe that a healthy woman can, not only with impunity but with benefit to herself, operate the improved light-running sewing machines that are made at this time. If the operator is in normal condition, the machine runs with very little friction. If the chair is properly adjusted to the height of the machine and the operator is careful in assuming her position in the chair so as not to bend the back unnecessarily and at the same time allow the easy play of the muscles which are necessarily brought into action, there is nothing in machine posture or muscular exertion required to prevent the operator running the machine for at least a half hour without fatigue or injury. The spinal column can be very well supported by a correct position in the chair and the posture is an easy one. The motion is principally confined to the feet and legs. The ankle and knee joints, with their sets of muscles, bear nearly all of the strain, while the muscles of the thigh and hip joint enter into the exercise only in a slight degree.

The machine is used improperly when the above directions are violated and the operator sits hour after hour at her work, with assistants at hand to do the cutting, basting, and so on. Fatigue, the valuable warning that nature gives, comes on, but is unheeded, and harm results. Fatigue and physical prostration, with all that they imply, are the

effects of this improper use of the machine: Passive congestion of the head or headache, uterine congestion or backache, pains in feet and legs, general weariness, &c.

I have already indicated how all this may be avoided.

The principal trouble grows out of the excessive use or abuse of the sewing machine, especially by delicate women, who from ignorance of their physical well-being and the many motives of a sociable or fashionable nature are urged to exert themselves beyond their strength. The department of the toilet and the sewing machine has been extended by fashion and ideality into a world of work and worry, wherein distracted women wander up and down, seeing no end anywhere. The sewing machine should be a relief to these toils. But has it proved so? It has not. Since its use women have concluded that there must be one hundred tucks on each little petticoat where there used to be a dozen, and twice as many garments are made up and held to be necessary as formerly. They sew to the limit of endurance, and the old proverb holds good that "woman's work is never done." Many a misguided woman has sat up night after night and overtaxed her strength at the sewing machine, actually sewing the thread of her life into elaborate garments, which her children were none the healthier or more virtuous for wearing. Such use of the sewing machine is not only improper, but is suicidal and criminal.

To a lady out of health or suffering from some particular physical disability, this abuse of the sewing machine is serious in its results; yet I believe it is wrong to forbid the use of the sewing machine by every delicate woman who is in a state of general *malaise* from uterine or other disorders. With equal justice they might be told that they must not sweep or dust a room, must not play an organ or piano, must not walk or ride on horseback or take any exercise of an active nature. The truth is, this class of women may do any of these things if obedient to hygienic instructions. They must indulge but for a short time and stop when warned by the never failing signal nature gives—fatigue. A short time at the machine, then something else; and when this in turn fatigues, then something else, and so on, returning to the machine after a proper interval. The rule for these persons is exercise,—including the proper use of the machine,—varied and in proportion to strength, thus affording them the blessing of interest and occupation. I think as a general rule the use of the sewing machine should be regarded as improper and to be avoided during menstruation.

Women with defective vision who attempt very fine sewing or trying colors have to bend their backs too much. This cramps the chest, diminishes the supply of oxygen, forces down the abdominal viscera and favors congestion. The use of good glasses, enabling them to keep their bodies in correct and proper positions, will prevent the above difficulties.

Ladies who are really and justly prohibited by special physical disability from using the best treadle machines can use the hand machines. Better still, they can use one of the simple contrivances for generating and applying steam as a motive power and as a substitute for their defective muscular force. There are also simple contrivances for applying water power to run the machine. By a simple and ingenious arrangement the principle of the over-shot wheel has been utilized for this purpose, and I earnestly recommend these contrivances to the extremely delicate females who can scarcely dispense with the sewing machine.

No intelligent person can regard without interest anything that tends to preserve or promote the physical health of our women. Cheerfulness, usefulness and happiness are all comprehended in healthfulness. When we remember woman's important function of maternity and that law of nature which allows the transmissibility of traits of mind and character as well as physical defects or perfections from parent to child, we see that the subject of woman's physical well-being and all subjects relating thereto are far-reaching in their importance, and concern not only us of the present but generations yet unborn.

Our women are not as strong and healthful as we would like them to be. *Unfortunately, refined women especially do not appreciate or desire physical excellence as they should.* Young ladies rather prefer to be delicate, fragile and incapable of endurance, holding the mistaken notion that to be thus is to be æsthetic or beautiful. Some of them actually are said to dread the glow and hue of health. Well-rounded muscles, with a figure of a Venus de Milo, are viewed as coarse and discarded as unladylike. Their muscular development must be far beyond the least suspicion of *embonpoint*, and their waists rival the proportions of the wasp. Sensible women must discard all such foolish notions ere it be too late. Before any improvement can be attained in the matter of woman's physical well-being *its importance must be appreciated by those whom it nearly concerns and an earnest and intelligent desire for it must be cultivated.* When this has been done, then we can hope to accomplish good by pointing out the improper use of the sewing machine and how to avoid it; by insisting upon the importance to woman of fresh air and exercise; by advising against the excessive development of the nervous system; by calling attention to the ruinous effects of improprieties in dress; by showing the painful results of imprudence during menstruation, and so on. Many reforms are called for which, if carried out, would bear fruit in the present and in coming generations. On moral, religious and sanitary grounds, I call upon our noble, refined women to appreciate the great value of physical health and earnestly cultivate a desire for it. Then will they no longer abuse the sewing machine or in many ways now common violate the laws of life and health.

W. T. C. BATES, M. D., Columbia, S. C.

Soil Pollution and Sub-Soil Drainage for Health.

By O. B. Mayer, Jr., M. D., of Newberry, S. C.

The most that medicine can ever accomplish will be the lessening of the mortality of diseases.

Physicians can never become so skillful, nor medicine so potent, as entirely to prevent death from every kind of disease. In the face of this fact the proper course to be pursued is to strive to prevent the occurrence of the disease.

The results of the sanitary measures for the past few years have been very encouraging, and the great possibilities of their future benefits are beginning to be acknowledged, and are now, in the medical world, the questions of greatest interest and importance.

The conditions necessary for the production of certain diseases having been ascertained, there is now no longer any reasonable excuse for their continuance.

Observation and the unfortunate experience of some of our fellow creatures having taught us that opium, in sufficient doses, will produce death; and since scientific observation and study have proved that polluted drinking water will cause typhoid fever and diphtheria, where is the difference, as far as the result is concerned, between allowing a privy drain to empty into a well or water pipe and taking a poisonous dose of opium? The importance of sanitary measures, so far as they relate to drainage and the removal of soil pollution, would perhaps be more impressive and greater interest taken in them if the vast number of deaths resulting from this common cause of disease were known.

This is a subject worthy of the study of every one, and especially deserving the attention of those whose duty it is to legislate for the protection of human life. There is a grand success awaiting that age which is to educate the people to a knowledge and appreciation of the causes of disease and a glorious achievement for the government that is to enforce the removal of them.

There is a very subtle poison originating in soils that are imperfectly drained and polluted—a poison very powerful in the production of diseases. So widespread is it and so fatal the diseases which result from it, that some countries are rendered almost uninhabitable by it.

The principal diseases which originate from these polluted soils and which the people of this State are most interested in are the various forms of malarial fevers. There are other diseases supposed to originate in polluted soils, but I have preferred not to mention them as they more properly belong to a different subject. It is estimated that one-third of

all deaths are due to this agent, which, as just stated, is generated in soils impure from being imperfectly drained.

I shall, in a general way, show what the substances are and the way in which they pollute soils, and I shall also point out the fact that the difference in the contour of the surface and the composition of the soils favor and promote their pollution.

The excrementitious products of animals, both man and beast, furnish an immense amount of polluting material. The average quantity of solid excrement is nearly a pound and one pound and a half of fluid per day for each individual. This in a town of twenty-five hundred inhabitants would furnish per annum eight hundred and fifty-five thousand pounds of solids and one hundred and sixty thousand three hundred and twelve gallons of fluids. All this matter is thrown upon the surface of the earth and subjected to the forces and agents that produce the pollution.

The amount of excrement from beasts and other sources is probably ten times more than what has been mentioned. The bodies of human beings decaying under the surface, and the carcasses of animals suffered to decay upon the surface, assist largely in the work of contamination. This points out the necessity of establishing burial places outside of corporate limits. The rotting of vegetable matter also must be classed among the substances that pollute soils, and the immense quantity that annually rots upon the surface of the earth furnishes a large amount of polluting material.

I have now mentioned only three substances as chiefly concerned in the pollution of soils—they are animal excrement, dead bodies of animals and decomposing vegetation. To these must be added the agent which is now considered necessary to render the others capable of polluting. This agent is water, and it is possessed of such power and activity in this regard that attention must be mainly directed to it; for it not only intensifies the pollution by concentrating the means, but is itself, when existing in the soil to more than a certain quantity, a cause of disease.

The products of animal and vegetable decomposition could not become the means of soil pollution without water; for, as will be shown further on, perfect drainage, which removes from the soil its excess of water, renders this soil harmless, although it may contain much decomposing matter.

Soils that even do not contain any appreciable amount of the products of decomposing matter, but at the same time are saturated with water, if they do not occasion, have an injurious influence upon certain diseases.

The origin of the cause of typhoid fever is at present a subject upon which the medical profession is not agreed; but so far as soils containing an excess of water are concerned, it is now acknowledged to materially

increase the death rate of this disease. Indeed, so great is the influence of subsoil water upon this disease that the death rate increases in proportion as the subsoil water approaches the surface.

The degree of soil pollution is of course dependent upon the quantity and kind of materials either deposited upon the surface of the earth or carried into it by the waters that descend into it through the porous soil. In and immediately around towns which have no system of drainage the contaminating matters accumulate in much larger quantities than in less thickly populated parts of the country, and of course, all things being equal, the soil in undrained towns and suburbs is proportionally polluted.

If we will study the composition and character of soils, we will easily find that some are sandy or composed of other porous earth, while others are of clay or other impervious earth. On account of the irregularities of the earth's surface some soils are elevated or hilly, while others are low and level. Some are inclined by gradual slopes;—all, however, being above the level of the sea.

In order to understand how the lack of drainage can, by polluting the soil, be the occasion of sickness, malarial or otherwise, we must adopt some condition of soil as a standard and then consider all excesses of water in soils to be the result of defective drainage. To get a clear idea of this we must keep in mind that the soil is composed of minute particles of earthy and other kinds of substances, which have spaces between them, these spaces varying according to the size of the particles which compose the soil. Dr. Madden has given such a fine description of the mechanical structure of soil that I cannot do better than use his own words:

"Soil examined mechanically is found to consist entirely of particles of all shapes and sizes, from stones and pebbles down to dust of finest powder, and, on account of their extreme irregularity of shape, they connot lie so close to one another as to prevent there being passages between them, owing to which circumstance soil in the mass is always more or less porous. If, however, we proceed to examine one of the smallest particles of which soil is made up, we shall find that even this is not always solid, but is much more frequently porous, like soil in the mass. A considerable portion of this finely divided part of soil—the impalpable matter, as it is called—is found by the aid of the microscope to consist of broken down vegetable tissue, so that when a small portion of the finest dust from a garden or field is placed under the miscroscope we have exhibited to us particles of every variety of shape and structure, of which a certain part is evidently of vegetable origin."

Lands of whatever kind in which the spaces between the component particles of earth are filled with water nearer the surface than four feet—

except during and soon after hard rains—are polluted by water and need draining. A drain at the lowest depression on the surface, or through beds naturally impervious to water, drains away the water collected in the spaces between the earthy particles. As the water is drained off, air takes its place in these spaces. Of course there is a certain amount of moisture remaining in the earth, inasmuch as the attraction between the particles and water is sufficient to retain water enough to keep the earth moist.

Now, we can readily see how easily soils with surfaces much inclined can escape pollution. The explanation is easy. The water which falls upon the surface of the earth as rain flows so fast over the inclined surface that only a comparatively small quantity can be absorbed. But those lands that are situated at the base of hills or at the foot of inclines are liable to overflows, and their soil becomes saturated with water more or less stagnant. The large amount of animal and vegetable matter that accumulates upon the surface of the earth is pulverized by the pelting rain, and is either absorbed or carried off by the force of the flowing water. While the water is flowing, those soil-polluting substances are carried along by the force of the current and have little chance of being deposited; but as soon as an overflow takes place the force of the current is impeded and a rapid deposition of the undissolved substances in the water takes place.

The water that falls upon the earth as rain flows over its surface in obedience to physical laws, compelling fluids to flow from higher to lower planes, and streams formed by the union of lesser ones flow under the power of the same laws onward to the sea. If we observe water from the time it first reaches the earth in the form of rain, we see that unless it meets with obstruction its flow is continuous until it reaches the sea. There are obstructions, great or small, in all streams, from the rivulet to the largest rivers—obstructions which arrest the flow of water; and if they are large enough or the water be in sufficient quantity an overflow must surely take place, and wherever it does occur there must be a local increase of the surface and subsoil water over the general rainfall.

Land that is surrounded by an elevation or ridge or hollowed some how or other into a basin, large or small, is in such a condition that the surface water cannot escape, and if the accumulation remains greater than the evaporation or soakage through the under strata there will be a pond or marsh. If the basin is shallow enough the most of the water may flow out of it and there may be no water visible; in fact, it may be dry and hard, cracked and fissured, and yet just below its surface there may be an excess of water. The only remedy for this condition is to make a free escape for the water by cutting through this insurmountable ridge down to and through the impervious stratum that forms the

bottom of the basin. This permits a rapid escape of water during a rain and afterwards drains the earth down to the level of the ditch.

The evidences of a lack of subsoil drainage are wet streaks in various parts of dry land, a cracked and fissured condition of the surface, lands remaining too wet for cultivation long after rains have ceased, and not in a condition for planting until late in the Spring.

Faulty drainage is moreover exemplified by meadows or "bottoms," as they are sometimes called, when they do not produce good crops; when they suffer more from drought than neighboring lands; and, if they are not cultivated, when they only grow bulrushes, sedges and the coarser grasses.

There is but one remedy for this condition of soils, both as it regards the welfare of agriculture and health, and that is under-drainage. As scientific agriculturists no longer consider with favor any system of under-drainage but that of tiles, I shall confine myself to that kind only.

The water which falls upon the earth and is not removed by surface drainage sinks into the earth until it reaches an impervious stratum, and is governed afterwards by the same laws which governed it upon the surface: that is, it flows in accordance with the slopes and depressions of this arresting stratum. Whenever it is of such a shape as to prevent the under current of water to flow on, the surrounding soil must become saturated with an excess of water by accumulation. It is for the removal of such excess of water that tile under-drainage has been employed.

It consists of a system of tiles (earthen tubes) laid at different distances and depths, following the depressions of ground and opening into a surface drain which is lower than the lowest laid tile. This removes from the soil all excess of water in it above the tiles. When this kind of drainage is properly done it is done for ages.

We are now in a position to observe the influences which these lands have upon their inhabitants. As has already been stated, lands which have become polluted through want of proper drainage are capable of producing malarial diseases. To have a better understanding of the way in which malaria is generated, a few facts are necessary to be made known. There must be a temperature above the freezing point,—how far above is not exactly known, but not less than 60°F., before the malarial poison is recognized as being formed. It is, however, known that its generation ceases when the freezing point is reached, and that as the temperature rises so the quantity and power of the malarial poison increases. The malarial diseases of the Temperate Zone are not as violent as those of the Torrid, and in the extreme Northern parts of the North Temperate Zone, and beyond in the Frigid Zone, such diseases are scarcely known. There must also be organic matter undergoing decomposition.

The amount may be small, even as little as two per cent., and still that is sufficient, as is illustrated in the Island of Hong Kong, whose surface contains less than two per cent. of organic matter, and yet it is noted for its malarial diseases. Water is the other essential element now universally acknowledged to be indispensable to the formation of malaria. But for this agent to be efficacious, it must exist in a certain amount and must be in the soil and not merely upon it. Land covered by water does not produce malaria, but that soil does which is continuous with it and contains a sufficient amount of water. This quantity of water is that which will fill all or part of the spaces in the soil within four feet of the surface.

With these facts before us, we can easily understand why badly drained lands are malarious. As long as the upper four feet of soil has water enough to fill the spaces in it, so long is it capable of generating malaria whenever the temperature reaches the necessary height. With these conditions existing in a given portion of country, there is no escape for the inhabitants from malaria; and knowing, as we now do, how to remove the essential agent in the production of this poison and yet neglecting to do it, we risk our lives, or at least our health, at every rain that may fall or elevation of temperature that may occur during any Summer.

As the condition of soils suffering from pollution have been already described and are so easily recognized, both by the appearance of the soil and the resulting diseases, it only remains for me to call attention to some characteristics of soil that are free from malarious diseases.

The pine lands have been so free from malarious diseases that they have long attracted attention on that account. The exemption of the inhabitants of these lands was once supposed to be due to the effects which the products of the pine tree exerted upon the fever poisons; but persons employed in the distillation of turpentine some distance away from the pine lands are as liable to malarial diseases as any other people, and some other explanation had to be sought. This has been found in the drainage, which has been made perfect by the composition of the soil and the cavities left in it by the decayed pine roots. When the pine trees of the pine lands become too thick to thrive the weaker ones die and rot, stump and root; and as the pines are very numerous upon land when they are small, this takes place in vast numbers. It is wonderful to observe what a large quantity of water disappears into these cavities during a rain. The top soil in pine lands is composed almost entirely of sand, and wherever a stratum impervious to water is found this is perforated by the numerous pine roots that descend through it into the earth below. In this way the water as it soaks into the soil (which it does very rapidly) continues its descent through any obstructing layer by means of the innumerable perforations left by the decayed

pine roots. This affords such a free and rapid descent of water that the soil of pine regions generally comes up to the standard of good drainage as already given. There is, however, natural drainage not confined to pine lands and existing in varying degrees everywhere. This is always recognizable by the evidences already mentioned of well drained land and especially by exemption from malarious diseases.

There is one more illustration of the exemption of well drained land from malaria, and that is to be found in towns and cities that are paved and have a proper system of sewers. One of the most conspicuous facts connected with the history of malaria is the general disappearance of it from lands once very subject to it, but exempt from it since the building upon them of towns and cities. This disappearance of malarial diseases is observed to take place as sewers and drainage are adopted. In the suburbs of towns and cities, where there are few or no sewers, there is more or less malaria, which disappears as the sewerage is increased. The sewers of towns and cities drain the land as thoroughly as a perfect system of tiles would a field or meadow.

A celebrated writer on drainage says:

"The evidence of the effect of drainage in removing the cause of malarial diseases is complete and conclusive. Instances of such improvement in this country are not rare; but they are much less numerous and less conspicuous here than in England, where drainage has been much more extensively carried out, and where greater pains have been taken to collect testimony as to its effects. If there is any fact well established by satisfactory experience, it is that thorough and judicious draining will entirely remove the local source of the miasm which produces these diseases."

Dr. Whitley, in his report to the English Board of Health on malaria, says:

"It may, therefore, be safely asserted, as regards England generally, that the diseases which have been made the subject of the present inquiry have been steadily decreasing, both in frequency and severity, for several years; and this decrease is attributed in nearly every case mainly to one cause—improved land drainage."

O. B. MAYER, Jr., M. D.

Newberry, S. C., September, 1882.

TEETHING CHILDREN.

By A. S. Hydrick, M. D.

The eruption of the teeth marks an epoch in the life of the individual. It occurs at a period when the most active development of the organism coincides with a change from one mode of living to another; when the mother's milk, hitherto the chief source of the child's nutritive supply, is altered in its qualities by the re-establishment of the suspended function of menstruation and is being replaced by food artificially prepared.

This is the first great *change of life*, and, like all the transition periods of life, it is characterized by increased susceptibility to the various causes of disease. It is at this time that measles, whooping cough, scarlet fever and disease of the organs of respiration and digestion abound, and statistics demonstrate that it is the most fatal period of man's existence. Parents and nurses look forward with much anxiety to the time when the child will cut its teeth, and they certainly have reason for their rejoicing when the process has been safely completed. This solicitude causes the dangers of dentition to be greatly magnified and the morbific influence exerted by that process to be greatly exaggerated.

The errors which arise just here are manifold and fraught with disastrous consequences; and while it must be confessed that the exact relations which the eruption of the teeth sustains to the various diseases occurring during its progress have not as yet been satisfactorily determined, it becomes necessary to set forth what is clearly known on this subject in order to disabuse the popular mind of many erroneous ideas and practices. It is wrong, as is the custom with many, to impute all diseases arising during dentition to that process as their cause; and it is, I hold, equally wrong, as some modern teachers would have us do, to lose sight of the fact that dentition is progressing when the child is attacked by disease, for to whatever other cause it may be due, or however trivial in its character it might be at other times, it becomes invested at this time with peculiar dangers and demands especial vigilance on the part of the child's attendants. Teething is a perfectly natural process, and yet, like many other natural processes, it is accomplished not without pain and much discomfort, if, indeed, it does not cause so much irritation that but a slight additional *irritation* is needed to precipitate an attack of some disease.

The border line between physiological and pathological processes is not definitely marked, and the exact time that any process ceases to be natural and takes on diseased action cannot be determined with scientific

accuracy. The best modern authors, however, incline to the theory that dentition, being strictly a natural development, ought to be excluded altogether from the domain of pathology. While, on the contrary, many physicians, and the great majority of the people, believe that dentition is the cause, more or less direct, of every ailment the child may suffer during its progress; and they make the fatal mistake of holding, in addition, that all such diseases are but efforts of nature to divert irritation from more dangerous points, and ought not, therefore, to be subjects of medical care. If the former theory, by its exclusiveness, has slain its hundreds, the latter, by its false assumptions, has slain its tens of thousands. What is known on this subject may be briefly stated as follows: Dentition is a physiological process, occurring *at a time* when, in consequence of rapid development of the system, there is a marked predisposition to disease and an increased liability to derangement of natural functions. It is a time of great *constitutional weakness*, and while diseases arising at this time call for our special care, they are not peculiar to this period, and present no clinical characters by which they could be distinguished from similar diseases occurring at any other time.

It is just as important that the child should have intelligent supervision during the period of dental evolution as that the young woman who is entering on her menstrual life should be informed of the dangers which beset that period in order that she might by judicious care avert them, or that the maternal woman should have an intelligent appreciation of the perils that cluster about her when she is passing the final *critical period* of her existence. It is the purpose of this article to supply popular information on this subject, so that the dangers and accidents of dentition may be prevented and parents and nurses shown their duty to the teething child in a clear light. It is not intended to take the place of the medical adviser, and will, therefore, have nothing to say about the treatment of the diseases incident to this period. It is not well for you to attempt to treat your children according to the crude ideas you may glean from this or similar articles elsewhere published. After you have adopted all the means of prevention and guarded your child by the most approved surroundings as to healthfulness, and, despite all, it be taken sick, it becomes your duty to send for your physician and devolve the responsibility of its medical care upon one who by study and practice is prepared to assume it. It is unfortunately the habit of many people to wait until they have ineffectually tried everything that their own ingenuity or that of every old woman in the neighborhood could suggest before calling on the doctor. In the meantime the disease has made such progress that its successful treatment becomes a matter of great difficulty if not an impossibility. To meet cases of this kind is an almost every day experience of the physician who enjoys a large practice. Remon-

strance with parents on the folly of pursuing such a course is often construed by them as an effort on the part of the medical man to magnify the dangers so as to excite fears and build up practice for himself. It seems hard for some people to justly appreciate the labors of the physician as a sanitarian, because to prevent disease would operate against his *business*. Nevertheless we should go forward with our self-sacrificing labors in behalf of the best interests of the human family, and, encouraged by the wondrous successes of the past, labor on in the confident expectation of a victory that will bring untold blessings to the human family and win for ourselves from a strong, healthy and grateful people an abundant reward for all our work.

The teeth generally appear in a definite order, which is shown in the following table:

The central incisors between	5 and 7 months.
The lateral incisors between	6 and 9 months.
The first molars between	9 and 15 months.
The canines between	15 and 18 months.
The second molars between	18 and 24 months.

The central incisors of the lower jaw are generally the first to appear, followed by the upper central incisors, though the latter sometimes precede the former. The lateral incisors of the upper jaw next present themselves and are followed by the lateral incisors of the lower jaw. The four molars next succeed, and in no very definite order; the lower molars, however, usually appear before those of the upper jaw. The four canine teeth are the next to pierce the gum, and the posterior molars, four in number, are the last to appear; making in all twenty teeth, which compose the first, temporary, milk or deciduous set. The following formula from Mr. Marshall illustrates the relative position of the several teeth which belong to the temporary set:

$$\frac{\overset{2}{M}\ \overset{1}{C}\ \overset{4}{I}\ \overset{1}{C}\ \overset{2}{M}}{M\ C\ I\ C\ M}$$
$$2\ 1\ 4\ 1\ 2$$

It will be observed that an interval of several months elapses between the appearance of the different teeth. This illustrates the conservative methods of nature, and may be accepted as teaching that the evolution of a tooth is a considerable tax upon the energies of the system and that this interval of time was given to allow of a recuperation of strength for the further progress of its work. This fact should be borne in mind, as it has important bearings upon the management of the child during this period.

It is a noteworthy fact that many children indicate commencing dentition by a derangement of the function of assimilation. They lose flesh and their muscles become flabby—notwithstanding they partake as freely of food as they had hitherto done and there is an entire absence of intestinal irritation. As soon as the tooth, of which this condition was the precursor, pierces the gum the child begins to regain its flesh and color, and it is often possible to predict the coming of another tooth by a return of the condition previously described. It is during this time of nutritive disturbance that constitutional taints are prone to manifest themselves, and the system falls an easy victim to morbific impressions of various kinds. Certain diatheses affect the progress of dentition. Children of a rickety constitution get out their teeth very slowly, while children with a tubercular constitution cut their teeth very rapidly. Of the truth of both of these statements I am well satisfied, though it may be proper to state that the latter is considered questionable by some and positively denied by others. Some rare instances of children having one or more teeth at birth are on record, but such exceptions to the general rule are more matters of interest to the curious than subjects of consideration for the practical physician.

Having discussed the order in which the teeth appear, we proceed to make some observations upon the condition of the child during the evolution of the teeth and to lay down certain rules for the management of the child with a view to the prevention of the grave accidents and diseases which so often complicate dentition and so materially enhance the danger to life at this time.

As soon as the tooth begins to advance to pierce the gum the salivary glands are irritated and pour forth an abundant secretion, which dribbles from the child's mouth—often so freely that it is difficult to keep its clothing dry. At the same time there occurs a broadening of the gum and the shape of the developing dental follicle may be seen in the gum below the point at which it subsequently emerges. These changes are accompanied by a sensation which must resemble itching, as the child will express relief when the gums are gently rubbed, or will press upon any hard substance that may be placed in its mouth, seeming to be comforted by replacing the itching sensation with the slight pain which that manœuvre provokes. It is to secure relief from this intolerably worrying sensation that the baby thrusts his fingers into his mouth and chews upon them during his waking and sleeping hours, or, when nursing, will cease to draw, and, closing his gums upon the nipple, press it with so much force as to cause the mother to cry out. Should the tooth shortly appear, the child rapidly regains his wonted habits and health, but very often some slight increase in this normal irritation causes the gums to become tender and painful and there is a notable elevation of

the temperature of the child's mouth. This is usually first apparent to the mother, who remarks that when the child seizes the nipple its mouth is hotter than usual, and she observes at the same time that there is not such a free flow of saliva as hitherto. The child becomes fretful, peevish, restless and thirsty, its sleep is disturbed, and as it is thirsty and experiences a comforting sensation from the flow of the warm milk over the inflamed gums it cries for the breast. The mother to quiet it allows it to nurse almost all the time, thereby thoughtlessly laying the foundation for much discomfort, pain and possibly actual disease for her child. It nurses over-much, indigestion naturally follows, undigested casein irritates the intestinal tract and evolves gases which provoke diarrhœa and colics. These symptoms, being regarded as merely expressions of the fact that the child is teething, are allowed to go on unremedied, or, what is possibly worse, the child is dosed upon "soothing syrup" or some equally worthless nostrum until the foundation of a severe and unmanageable *entero colitis* is laid. The rational management of this state consists in allowing the child to partake freely of barley water or of some palatable drink and giving it the breast at regular intervals. At the the same time let it have a rubber or ivory ring upon which it may chew, but do not try to rub through the tooth with a thimble or ring; and should the irritation of the nervous centres be notable, a warm bath will tranquillize the nervous system and secure for the child oftentimes several hours of refreshing sleep.

In addition to these simple precautions, the child which is teething should be warmly clad. It should wear flannel Winter and Summer—a thick flannel in Winter and a thin one during the Summer months. Exercise in the open air is of prime importance, and the baby should be carried out daily for a walk in the park or open woods, and must not be shut out from an abundance of sunlight and pure fresh air when it is in its room. The nursery should be large, airy, and have its temperature at such a degree as will most conduce to the comfort of the child. Too great a degree of heat involves as many dangers as too much cold. The child should have a daily bath in tepid water. It may remain in the water five or ten minutes each time, care being taken on its removal to rub the entire surface of its body gently with a soft towel in order to excite reaction and prevent it from taking cold. The food of the child which is being artificially fed must be carefully adapted to the enfeebled digestive powers, and under no circumstances should a diarrhœa or any other symptom of disease or functional derangement be allowed to go on without receiving medical care, for there is no class of diseases in which the time of beginning treatment affects so decidedly the results of treatment as these disorders to which our attention is now directed. I know the popular practice of dosing children with the various

"patent medicines" to be a fruitful means of swelling the mortality lists of this period, and I cannot too strongly condemn their use. Being ignorant of their composition, their therapeutical worth cannot be determined, and they can have no scientific application on the part either of they who prepare them or they who administer them. They are both placed in the unenviable position of being triflers with human life! Think of that, parents! When you give medicines of which you know nothing for the relief of a disease about which you are equally in ignorance, you are trifling with the life of your child.

On the Organization of Local Boards of Health and Some of the Means by Which They Can Aid the State Board of Health, by Maintaining Local Sanitation; also, on the Duty of the Citizen as a Factor in Preserving Public Health.

By T. Grange Simons, M. D., of Charleston, S. C.

In all towns or villages or townships there should be organized active Boards of Health. The most salubrious locality may become invaded by disease and destroy the happiness of your homes. Preventible disease may bear away your loved ones. The panic and alarm that of necessity must ensue during epidemics and the lack of organized sanitary authority render the gloom greater. The overworked physician who is usually called upon for advice has but little time then to give but to those who are sick. Boards of Health can do much to avert disease by proper advice, not only to the public but to each household and individual. Preventible diseases annually destroy thousands, and poverty and its train of evils result from the death of the support of the family who has been destroyed by the emanations of a damp cellar, foul drain or polluted well or cistern that has escaped attention from not knowing what to do to remedy the evil. Where ignorance of sanitary laws exist the people must be shown better and safer ways, and thus can a Board impress a community of its value and usefulness.

Boards of Health, whether elected or appointed by local authorities, under corporation charters or otherwise, should be composed of men who will give earnest attention to the sacred trusts committed to them—that of preserving health and of mitigating the discomforts of sickness and horrors of pestilence. Men of liberal views and education should be selected—those of sound practical business habits and fully identified with the interests and prosperity of the place. Those who are often absent on Summer jaunts and long business tours should be avoided in the selection of fit men. One or more physicians should form a part of every Board. They are, from study and observation, the natural conservators of health. Their intimate relations with the family allow them to give advice against habits and customs that will injure not only the health of the immediate individual or household but spread sorrow to neighbors. Physicians see defects in establishments that can be at once rectified by proper advice. A lawyer who is willing to bestow some of his time for the benefit of his fellow men may often save a Board from litigation and the passage of Acts

that are not legally binding from error of construction; for the Board should impress the people that the regulations they make are not intended to oppress them with arbitrary and unnecessary legislation, but that the stern, inexorable laws of disease are to be met and combatted for the public good. Ignorance and indifference must be contended with, and clear explanations of good to result must be shown. But obstinate opposition and obstruction must be firmly and relentlessly met by legal remedy. Controversy must be avoided with those wise in their own conceits.

The Chairman of the Board should be selected for his prompt discharge of duty and his ability to urbanely preside. He should prepare himself on such parliamentary rules that will enable him to conduct a meeting in proper order.

The Secretary should keep a record of the minutes of the meetings, issue the orders and rulings of the Board and keep a complete record of all sanitary and hygienic measures proposed or carried out by the Board. He should be the Executive officer of the Board and should be informed as to sanitation and the proper modes of abating nuisances, and able to give information as to disinfection and other measures to be employed to check contagious or infectious disease. The Secretary should be salaried and should be selected with great care. The work of the Board can be simplified and made more effective by having it done by standing or special Committees charged with the several duties.

DUTIES OF LOCAL BOARDS OF HEALTH.

The members of the Board should study the peculiar wants of the community in which they reside. Topographical and geological formation should be known. All local causes that may tend to generate or increase the prevalence of disease should be sought after and suggestions to abatement of such causes made. They should co-operate with the State Board of Health and furnish reports and information as to water supply, sewerage, lights used, safety of illuminating oils offered for sale, condition of dwellings as affecting health, markets how kept, inspection of meats and food supplies, disposal of garbage and excreta from privy vaults, penal and charitable institutions, sanitary condition of inmates, public and private schools, health of scholars, ventilation, lighting and warming of all public buildings and schools, marriage, birth and death returns. These vital statistics are of great value to the political economist, as giving evidence of the relative health of positions of our State and longevity and increase of inhabitants' ratio of death rate. The intelligent emigrant now studies these returns with care and all through the great Northwest these statistics form no small part of the induce-

ments offered to settlers who are seeking homes for their families. The pauper and criminal emigrant does not care and will go anywhere, but the thrifty and moneyed man looks well as to local surroundings in selecting a home for his family.

Local execution of sanitary laws by local authorities is to be desired, but the Central Office of the State Board should be ready at all times to give aid and support to local Boards. The Central Bureau should be furnished with stated returns of vital statistics from all parts of the Commonwealth. Valuable information will be derived from the reports of local Boards. The progress of sanitation should be noted, and with the decrease of disease poverty and the death rate will be lessened as sanitation advances.

THE DUTY OF THE CITIZEN

Is to keep his house and yard and outbuildings in good order and free from any source or cause of engendering disease. Cellars should be kept dry and clean and well ventilated. Drains or sewers or waste pipes should not be laid under cellars if avoidable; but if it has been done or is unavoidable, then they should be above ground, so as to be frequently examined to detect any leak that might pollute the air of the apartments above or drain into your own or your neighbor's well or cistern. Decaying vegetables and rotting wood should not be stored under your sleeping rooms, nor should any one be allowed to sleep in a cellar.

Sleeping rooms should be well opened to sunlight and fresh air, bedding often sunned and exposed to air, all closets opened frequently, bath rooms and water closets kept free from odors and well ventilated, water works properly built by a plumber that understands their construction, or else your houses will be filled with sewer gas and privy exhalations. Water closets and bath rooms should be disconnected from the sleeping rooms and all pipes from them carried on the outside of the house and well trapped and ventilated by proper pipes running up to top of roof. A free use of disinfectants is essential. See list given.

DISPOSITION OF GARBAGE.

Garbage should be collected from each house and be placed in proper boxes or tight barrels at such times and places as may be designated by the sanitary authorities and accessible to carts when removal is to be made. The disposition of this material offers a difficult problem. It should not be used for compost or fertilizing near habitations; it should be deposited remote from them, so that no effluvia shall affect health. Nor should it be placed near any stream from which the water is used

in or flows through or by any town or village, as the rain and surface water will take the soluble matter from it and pollute the water supply. The filling with it of low lots, ponds and marshes should be prohibited, for the slow decomposition may continue for years and the soil filled with emanations from it so as to render it unsafe to build on. In cities where coal is used, the separate collection of ashes will furnish a valuable and safe material for filling. The kitchen refuse can be utilized by farmers for feeding pigs or for compost under proper regulations.

WELLS AND CISTERNS

Should be so constructed that no pollution of the water from surface drainage or sewer leakage can contaminate the water. Cisterns should be built above ground, or partly so; but the walls of them should never form part of a cellar wall; nor should any drain or waste pipes from bath or water closet or wash basins run near them, so that, by leakage, the water may be polluted. Good brick walls, well cemented and free from cracks or leaks. The inlet and overflow pipes should be free from chance of admitting foul material. The overflow or waste pipe should never empty into a vault or drain, as it may become choked, and the sewage or drain water dammed back into the cistern. The roof from which the supply of water is collected should be in good repair and carefully washed by rain until all dust and deposit that has been blown upon it is removed; then the water should be allowed to run in the cistern. Carpets and clothing from sick rooms may liberate germs of disease that may be wafted upon the roof and washed into your cistern, and thus disease is mysteriously brought into your carefully watched and guarded home.

WELLS.

Wells should be located so as not to admit the drainage from higher ground to gravitate towards them; they should be on an elevation above the location of stables, privies, kitchen and farm yard. In no case do wells near habitations remain long free from pollution. Sewage and privy matter percolate through the soil, obeying the laws of gravitation; it runs into the deepest depression, and the presence of nitrites and nitrates, chlorides and alluminoid ammonia will give strong evidence of decomposing organic matter in well water. Wells should be often tested for such contamination. Typhoid fever excrement has been known to poison a spring three hundred yards down hill from the point where the excrement was thrown. Serious and fatal outbreaks of typhoid fever have been traced to the milk from one dairy supplied to the several houses where the disease prevailed. Investigation proved the use of

water polluted from typhoid fever dejections deposited at a distance from the water supply of the dairy—not to adulterate the milk, but to wash the pans. Diarrhœa, dysentery, diphtheria and scarlet fever may be engendered by the same means. Common salt thrown into a spring soon showed itself in other wells and springs nearly one mile away on a lower level. The water from these had before been pure. Sand and gravel will filter out some of the organic material; but near habitations, the earth around and near wells becomes so charged with organic material that it soon ceases to have any value as a filter. The leakings from stock yards, tanneries, graveyards, cesspools and privies soon pollute water near them. Water may be bright and sparkling and taste pure, or so slightly charged as not to be objected to, yet charged with the presence of dangerous pollution. Wells should be cemented for three-fourths of their depth, and only near the bottom should the water enter through the uncemented loose joints of the bricks. Wooden curbing affords no protection as to preventing surface or other pollutions. The water from the wells should, I repeat, be often tested; if possible, send a gallon or more of it to a chemist. But a few simple tests may be of much value to those who have not the inclination or ability to send the water for testing. Water should be clear and free from odor or taste; yet in clay or mineral regions we may have water discolored, yet sufficiently pure to be used with safety. A few simple tests as to pollution from organic decomposing material will be of some help to those who desire to know from what source to look for disease from contaminated water supply. The presence of inorganic or mineral pollution in the water requires, generally, the delicate skill of the laboratory; but the following will show danger from the most common sources of water contamination:

WATER TESTS.

Take one or more clean, clear bottles or vials; fill them two-thirds full; cork and allow them to remain in a warm place at rest for two or three days. A perceptible offensive odor will be perceived with some deposit of scum, or discolored froth will be found on opening the vial. The water has become stagnant. Drinking water, to be safe, should be free from taste or odor or color; but this even may be all right, yet disease lurk in bright, cold, clear water. If the water becomes stagnant in the time specified above it is unfit for use.

Hirsch's test for sewage or surface drainage contamination is a simple test that is reliable:

Take a clear pint bottle of white glass and clean; fill it more than half with the water to be tested; dissolve in it a teaspoonful of white sugar, loaf or granulated; cork the bottle up tightly; allow it to remain

in a warm place for two days. In twenty-four hours, or longer, it will be more or less cloudy or milky. If in forty-eight hours it should be more discolored, it is unfit for use for culinary or drinking purposes. If it remains clear it may be used with safety.

PERMANGANATE OF POTASH TEST.

Organic matter is quickly oxidized or burnt up by means of permanganate of potash; but the test material must be pure to give reliable information. Have prepared by a reliable apothecary this solution:

Chem: Pure Permanganate of Potash..... 8 grains.
Distilled Water..... 1 ounce.

Put a half pint of the water to be tested in a clear, clean glass tumbler or vial; add a drop of the test liquid. If the pink tint disappears from the water in a half hour add another drop and allow it to remain still another half hour. For as many drops added until the water remains pink you will have a grain or more of putrid matter to each gallon of the water.

SEWAGE CONTAMINATION TESTS.

The presence of sewage will give large amounts of alkaline salts, chiefly common salt, (chloride of soda.)

Render the water to be tested strongly acid with nitric acid. Then into it add a solution of nitrate of silver, (lunar caustic.) It will show white, curdy flakes, that will prove the contamination; but as we have a small amount of salt in most water, the deposit should be well marked to condemn the water.

Boiling water renders it safer to be used, as much of the deleterious organic material is precipitated and oxidized by the process of boiling. After it has cooled it should be strained through fine or doubled cloth and then poured at a height from one vessel to another several times, that it may again recover oxygen and carbonic acid; in common language, recover the air that has been boiled out of it.

Never drink or use water that has been kept any time in a sick room, especially if the patient has any infectious disease, as many noxious properties can be absorbed by water so exposed.

Water may be rendered purer by adding, drop by drop, the test liquid of permanganate of potash until the pink tinge remains. This weak solution is not unwholesome. But no contaminated water should be used long, or at any time, if avoidable. The cause of such contamination should be removed or the well or cistern destroyed if the cause cannot be determined and abated.

A few strips of red litmus paper, to be had from any druggist, should also be used in testing water. If the paper is dipped in the water and turns blue, no matter how light the shade of coloring shown, the water is not safe for drinking or cooking purposes.

PRIVIES

Should be constructed above ground with water-tight cemented vaults, or, what is best, "The Sanitary Enameled Surface Vault," as invented by Mr. Wilson Glover of Charleston. This appliance is easily kept clean and emptied with ease, and it is worthy of the attention of all householders and sanitarians.* The dry earth or box system is also an admirable one and can be managed with no trouble. The excreta is received in a box or receptacle with an amount of dry earth or ashes or charcoal. After each dejection a shovelful of the dry absorbent material is thrown over it, and thus no odor is, or ought to be, perceived. All privies should have a flue ventilation that extends some distance up in the air. Care must be taken, however, that this ventilation will not discharge its gases into a window of your own or your neighbor's house. No sewer or waste water pipe should communicate with the privy vault or you will have your house filled with gases from the vault.

The frequent use of disinfectants and free ventilation is required in all water closets, urinals or privy vaults. The copperas solution as given elsewhere is the best for this purpose. Chloride of lime or chlorine should never be used when metal pipes are connected with the places to be disinfected, as the corrosive effects of chlorine will soon destroy the pipes and leaks allow the escape of contents and gases. All dejecta and emanations from the sick chamber should also be disinfected as directed with the copperas or zinc disinfectant before being thrown into a water closet or privy vault. By this simple precaution many diseases may be prevented. Vaults should be cleansed annually, or oftener if required, and for this end frequent inspections by a competent officer of the Board of Health should be made. The contents of vaults should be removed in closed casks or other apparatus specially designed; they should be tight and free from leaks or bad odors. The filth should be disinfected, carried away and deposited in such places as may be approved of by the Board of Health. Persons charged with this duty should be licensed to do so and subject to orders from the Executive Officer of the Board of Health, who should frequently inspect the apparatus and measures employed by them; nor should any vault be allowed to be emptied until a proper permit is obtained and proper instructions enjoined as to who shall do it, at what time and other specifications given.

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*For information regarding these closets address Eagle Sanitary System, Roxburg & Glover, Adger's North Wharf, Charleston, S. C., and 34 Natchez street, New Orleans, La.

DRAINAGE AND SEWERAGE.

Sewers should be provided to carry off all polluted or soiled water from bath rooms, water closets, kitchen and slop sinks; they should be well trapped and provided with grease or soap chambers, or else they may clog; nor should they communicate directly with the interior of the house, as the foul gases from the larger sewers will ascend and deteriorate the atmosphere of the sleeping and dwelling rooms. Ventilating flues or pipes should ascend above the roof that will allow the escape of all pent-up deleterious gases. The system of allowing the ventilation to be led into the chimney flue is wrong. Whilst the chimney is in use, the hot air will cause a draught up and thus draw up and destroy the sewer gas; but at night or during the absence of the family the gases enter the chimney flue, are thrown down, enter the house through the fireplace or grate opening, and thus engender disease. No communication with a sewer pipe or ventilator should ever be allowed with the chimney flue. The only ventilator is one well trapped, with open air communication above the roof. Sewer pipes should be of impervious material, and if of tiles or earthenware they should be glazed or vitrified on the interior and the joints closed tight, so as not to allow the fluid or gaseous contents to escape and pollute the soil and to penetrate cellars and poison wells and thus engender disease.

DRAINS.

All locations for building purposes should be selected with a view as to easy and proper drainage by the natural declivity of the site, but subsoil water and rain water must be removed. The depth of subsoil drains will vary in regard to the porosity or density of the soil. The drains should be so constructed as to allow water to enter at all points. Drains should be porous, unglazed tiles, with loose collared joints. These tiles are made of various sizes and patterns and can be obtained at comparatively cheap rates. The Hon. B. F. Crayton, in Anderson, and J. S. & F. H. Horlbeck, in Christ Church, Berkeley County, have large factories that can supply them of any size wanted.

Dust is disagreeable and often contains noxious elements, but the dryest soil affords the healthiest spot for a dwelling. One that has natural drainage is best. Damp soils contain much subsoil water, and rheumatism, malarial and typhoid fevers are engendered. Recent researches show that consumption increases fearfully in extent in localities with subsoils charged with water, and the damp, foul emanations cause this disease to a greater extent than inherited tendency, popular belief to the contrary.

Locations near large bodies of water—lakes, rivers, seaside resorts—do not come in this class, for usually the drainage is easier than in flat levels with no natural facilities for drainage. Dry climates are sought after and enjoyed by those suffering with pulmonary or rheumatic affections. Altitude is not alone the essential for health. Egypt and Algiers are essentially dry climates with pure air. Aiken, in our own State, Asheville, N. C., and other mountain resorts owe much of their reputation to the well drained localities. With them we have pure air, elevation above the sea, (altitude,) and the topographical relations that do not admit of retained subsoil moisture. The effects of drainage in abating disease cannot be too strongly dwelt upon. Malarial regions have been rendered safe habitations by proper drainage. The reputed virtue of the Eucalyptus tree in rendering malarial emanations harmless are supposed, with good foundation for such opinion, to result from the immense amount of subsoil water that they absorb. The cause is removed—not the effect.

STABLES, STOCK YARDS AND POULTRY HOUSES.

These should all be built so as to be remote from dwellings and so arranged that the surface drainage from them should not flow down hill and pollute the wells and cisterns. The stalls of animals should be built to admit air and sunshine. Disease, dirt and darkness are inseparable. Pure water is requisite for healthy stock. Diseased stock should be quickly removed from the others and the stalls and pens freely disinfected and fumigated. Carcasses should be removed and deeply buried away from water supply and so that dogs cannot dig up and eat them and thus bring back the disease to others yet free from it. Many diseases of animals do affect the human race when the flesh or milk of the diseased animal is used or the secretions brought in contact with and innoculated upon bruises or cuts on the hands of those who attend to the diseased animals. Glanders, pleuro-pneumonia or rinderpest, hog cholera and trichinosis are all dangerous; hence the care essential to prevent the sick animal from being eaten or coming in contact with others unaffected.

Dairies should be arranged so as to have a plenty of pure water, nor should milk be kept in a place that may be pervaded by foul gases or emanations from filthy places. Milk absorbs all impurities from the surrounding space; for this reason it should not be kept in a sick room or dwelling room. A cool, clean dairy is greatly to be desired, but a dark, damp, sour, foul outhouse, with bad water, will cause sickness. Epidemics of typhoid fever have been traced to polluted milk. Where the dairy attendants had used water in the dairy, not to dilute the milk but to wash up pans, &c., it was spread from house to house, and only

to those houses supplied with milk from the dairy mentioned. It was found that the excrement of a typhoid fever case had been carelessly thrown in a manure pit and the leachings from this had polluted the water supply of the dairy.

Tanneries, butcher pens, and soap, glue and tallow rendering industries should be remote from the habitations and great care enjoined as to sites of such places, so that the water supply, streams and ponds are not polluted. Ice from ponds polluted with surface drainage have been known to give rise to sickness of great severity in localities where such ice has been used; hence great care should be used in obtaining ice to store up. Do not use it from ponds filled with rotting sawdust or filled with stagnant water.

Cemeteries should not be located in cities and towns. No new burial places should be allowed within corporate limits and great care should be exercised as to the manner of burial in old cemeteries. Graves should be six feet deep. No grave should be opened a second time to inter a second body in it. The dead from infectious diseases should be buried quickly and privately.

SCHOOL HYGIENE.

The construction, location, ventilation and lighting of our school houses demand closer attention than is usually bestowed upon them. Our School Commissioners and Superintendents rarely consult any one in regard to matters connected with sanitary regulations. If more care was bestowed many contagious or infectious diseases may have been warded off from entering in and destroying the hopes and happiness of many blighted homes. All cases of disease that may spread in schools, and thus be disseminated, should be reported to the Board of Health, and they should then inform the principal of the school. If any scholar or teacher resides in the infected house they should not be allowed to return until competent medical authority has certified in writing that danger no longer exists. It may be necessary to close all schools at times to arrest diseases of infectious or contagious nature.

Ventilation is what is needed in nearly all school rooms that I have had access to. They are, as a rule, over-crowded, and the system of ventilation defective as engendering cold feet and allowing no vent for foul air. Stoves are sometimes used red hot, and soon the rooms are charged with carbonic oxide gas. Pale faces, headache, dull, suffused eyes, languor and lassitude, clouded faculties are supposed to be capable, in this atmosphere, to give earnest thought to abstruse subjects. This is no over-wrought picture, but one that can be shown not infrequently.

The water supply should be pure. Light should be arranged to come over the shoulder. No bright window should be faced by the scholars. Charts and blackboards should be arranged with due regard to light and shade. The visual capacity of each scholar varies, and it is cruel and useless to expect the same acuteness of vision and hearing in all children. The teacher should observe these varied capacities well, for often a bright, intellectual child is rated low, when the defect is not in the brain but in the sense of sight or sound. Eminent oculists are employed in many large schools, and each child has its chart as to degree of visual and aural capacity. The temper of the teacher and the improvement of the child are much better by this simple arrangement. Eyesight and hearing is preserved and strengthened instead of being taxed and worn out. The prolonged exercises that keep standing on the feet teachers and the older girls approaching puberty is harmful, and functional disorders are frequent results of such injudicious management. The teachers in many schools are required to stand until much exhausted. Many of them are young and functional and emotional life at a formative period. Congestions result. Menstrual irregularities, invalidism, nervous prostration and other disorders are borne as long as nature will admit. But these teachers and older girls are to become wives and mothers at some day, and impaired powers will tell, and they are unfitted for the highest duty of womanhood.

Seats should be provided for the teachers. It is impossible for them to perform their arduous and exacting duties when exhausted. Discipline can better be maintained when the temper is preserved, but when worn out no one of ordinary mortal disposition can be amiable under the harassing duties of a teacher. The frequent climbing of long flights of stairs and prolonged standing is not beneficial to the elder girls. Calisthenics should form a part of the daily exercises of each school. They impart ease and grace, but an exhausted body and overtaxed brain should not be subjected to strain. A proper development of the physical powers is needed to secure proper mental development. I do not propose to make our girls athletes, but graceful, refined, healthy, vigorous women, who will adorn a home and fulfill the duties of its head when a wife, and impart to her offspring healthy constitutions and not puny bodies and still weaker nerves—and herself be broken down before the meridian of life is reached, the victim of the demands for the approved methods of modern education. If our women are to be fitted by education to take place and position in the sciences or in the professions and to compete with men in the struggle for life, the weakest must "go to the wall" and the result be "a survival of the fittest." Woman is fitted intellectually to enter the lists with man, but her physical development is weaker naturally, her emotional sensibilities more acute and

responsive—frequently liable to be disturbed by functional performances that render these emotional faculties more acute than man's. Then, to give her some advantage in the race with those of sterner stuff and stronger mould, preserve her nervous and physical development; do not tax them too much during the dangerous and tender period of formation.

Habits of neatness as to dress and person should be encouraged; morals and manners framed that will fit the scholar to become the useful citizen. It is essential that proper protection should be afforded by reliable vaccination, and certificates of successful vaccination should be required before the admission of a new pupil. In case of epidemic of smallpox, revaccination should be at once insisted on; and, after due notice being given to be vaccinated, then those who have not availed themselves of the time given to be vaccinated by their own physician should be vaccinated or revaccinated without delay. Where contagious or infectious disease exists, all pupils and teachers exposed to it should be excluded from the school for such length of time as competent medical authority shall deem safe. Several forms of skin disease are liable to spread, and all such cases should have medical certificates that such disease as they have is not attended with risk by contact with others.

Water closets and privies for schools should be built carefully and adapted to the varied ages of the pupils. Foul odors should be prevented by use of disinfectants; dampness by proper ventilation. The seats of the privies should be free from damp, cold draughts of air, especially those to be used by the elder girls.

CONTAGIOUS AND INFECTIOUS DISEASES.

The local Boards of Health should at all times take cognizance of matters that relate to the preservation of public health and remove or prevent any causes that may endanger the safety of the community. On the approach or existence of infectious diseases, all places that lack proper care on the part of the occupants or owners should be inspected and sanitary measures at once instituted that will render the danger less of disease being intensified by the foul condition of the locality. The occupants should be warned and instructed as to the care to be taken to avoid disease and the proper means to avert or modify its course. Circulars with practical information, newspaper notices and other information should be given to the public as to proper care of the sick and the sanitary rules to be observed as to care of person and premises. All cases of the disease should be at once reported to the proper officer of the Board of Health, so that necessary precautions can be given as to isolation of the sick, disinfection and other means to be observed. Bed-

ding and articles exposed to infection should be properly disinfected or fumigated. [See list of disinfectants and how to use them.] Nurses should be provided and wants supplied. Persons living in the infected houses should avoid visiting others. All the children exposed should be excluded from the schools until a proper certificate is given by the physician that their return to the school is free from danger to others. The care of the sick and disposition of the dead should be carefully attended to. No public funerals should take place, nor should the body be carried to a church or conveyed in a carriage or hack, but only in a hearse, and as shortly after death as possible. The sick room and house should then be fumigated and disinfected. The dead should be taken quietly from the chamber to the cemetery by those who are not liable and they should use every precaution before coming in contact with others unprotected. Police authorities should be vigilant and watch the arrival and conduct of all tramps who may have come from infected towns or houses. Baggage, bedding and other fomites of disease should be carefully guarded and a full history required, and, if needed, disinfected and fumigated. Railroad officials should be alert to prevent such persons and effects or baggage from bringing infection into places. All water closets in cars or at depots should be liberally disinfected at frequent intervals with the copperas solution. Report at once to the Board of Health all that you think wrong in your own or your neighbor's premises and request information or aid in abating such causes that may be injurious. Prevent panic, preserve order, be sober, be clean and keep your surroundings so.

DISINFECTANTS FOR THE SICK ROOM AND PREMISES WHERE INFECTIOUS DISEASE PREVAILS.

The copperas (sulphate of iron) disinfectant, to be used in water closets, sewers, damp, foul cellars, also to be thrown in urinals and chamber vessels used by the sick with infectious disease: Take copperas, 1½ pounds to each gallon of hot water; or, when needed in quantity, take 60 or 70 pounds in a basket, held in a 40 gallon barrel, pour the water through until the copperas is all dissolved; use freely in all places requiring disinfection. Do not apply to painted surfaces or floors, as it stains.

Zinc disinfectant, for foul or infected bedding, clothing, white goods; also to use on painted surfaces, floors and places where the copperas stains are objectionable: Sulph. zinc, (white vitriol,) 4 ounces; common salt, 2 ounces; water, 1 gallon.

Thymol solution for cleansing the person, hair and beard after having recovered from infectious diseases: Thymol, 1 ounce, fluid measurement; Alcohol, 85 per cent., 3 ounces, fluid measurement; add a teaspoonful to

2 quarts of water. This is more effective and agreeable than solution of carbolic acid. Copperas, 20 pounds; plaster of paris, 25 pounds; white vitriol, 3½ pounds; powdered charcoal, 1 pound. Mix well and scatter about under buildings, stables, damp spots and alleys; or 1 pound of the mixture to a gallon of water can be used in the sewers, or sprinkled about with a garden water pot. This is very effective, and is quite cheap, so that it can be used freely.

SMALLPOX.

The only safe protective measure is vaccination and revaccination. These will almost secure absolute exemption from the disease, or so modify it as to render it very mild. How long vaccination affords immunity is a matter of doubt, but it is safe to have it done if exposed to smallpox and you have not been revaccinated successfully within five years.

Before the introduction of vaccination at least one-tenth of all the deaths in Europe were from smallpox alone. In 1821 one-half of the people of Boston had smallpox. Whole tribes of Indians have been swept away by its loathsome ravages; and even where death does not result, the disfigured faces, injured or destroyed eyesight, and the diseases engendered in feeble persons from it, render it an object of dread. In England, at the close of the last century, 3,000 deaths to every million of people resulted from smallpox. In 1853 vaccination was made compulsory, and the death rate from smallpox from 1854 to 1863 averaged only 171 per million of inhabitants.

In the Bavarian army revaccination is required at stated intervals, and no case of smallpox has been known to occur in those so protected. Dr. Marson, in charge of the London Smallpox Hospital, declares that in forty-two years of practice he has never known an officer or employee at the hospital to contract the disease. Revaccination is here rigidly enforced.

All persons except such as teething children, pregnant women and those suffering with skin diseases or erysipelas or eruption fevers should be vaccinated and revaccinated. When smallpox appears, even this class should consult a physician as to being protected. Infants should be vaccinated prior to the period of dentition. Even after exposure to smallpox the attack can be modified as to severity, as the vaccination runs a shorter period than the smallpox.

HOW VACCINATION SHOULD BE DONE.

If possible, have it done by a competent physician, as spurious vaccination gives a great deal of pain and affords no protection in any way;

but if no physician is to be reached, get good bovine virus on an ivory or quill point. With this or a sharp lancet or knife scrape away the upper skin until a space the size of a half pea is exposed and exudes a watery lymph, but little or no blood. If it bleeds, let this cease. Then wet the charged part of the quill or point with cold water and rub it over the abraded surface for some minutes until the virus is rubbed off.

The bovine virus should be obtained from a reliable person, such as Dr. H. W. Martin, 27 Dudley street, Boston, Massachusetts, or Dr. E. L. Griffin, Fond du Lac, Wisconsin; but great care should be observed in obtaining the matter to get only from reliable dealers, as many establishments of good repute send inert virus that affords no protection, but makes very angry, inflamed pustules when inserted in the body.

The following precepts may give some security from imposition and also from a sense of false security:

Never allow itinerant doctors or tramps to vaccinate yourself or your family.

Never use virus from the arm of an adult or a person who has been previously vaccinated; this is of no value.

Never be vaccinated in a sick room or near any foul ulcer or case of erysipelas or in any place where the emanations may produce a foul sore on your arm. Blame is often attached to the physician for using bad matter, but the fault is due to the nurse or patient by contaminating the vaccine abrasion or by repeated bruising of the arm, thus having a violent inflamed ulcer to result.

Infants should be vaccinated on the arm near the shoulder. Much less injury is liable to be inflicted at this point by the nurse or mother in dressing it. Two or more insertions should be made, as this secures better results and security.

Avoid scratching or bruising the vesicles.

The fever that results from vaccination seldom requires any treatment.

All factories, mills and schools should require vaccination before any one is employed or allowed to attend such places.

Beware of tramps and beggars, as they may convey smallpox from place to place.

DIPHTHERIA AND SCARLET FEVER.

These dreaded diseases occur mostly in children, but adults are not by any means exempt from them, and many fatal cases occur among even old persons. But even if adults do not contract the disease they can convey it to those liable to the influences. Avoid visits to the sick unless these visits are prompted with the desire to aid the sufferers, and after such visits avoid contact with children for several days. When

acting as a nurse avoid sitting on the bed or on the clothes worn by the patient. The discharges from the mouth, nose, throat or bowels are dangerous and must be disinfected at once. All such discharges should have the zinc or copperas solution given before thrown upon them before removal. Towels, handkerchiefs and sheets should be immersed in the zinc solution. Disinfect your hands frequently and when leaving the house use the disinfectants of thymol or carbolic acid for the person, hair and beard. The scales of skin from a scarlet fever patient may be carried out and thus give the disease to others. These scales are esteemed the most potent agents of disseminating the disease. Burn all articles used by the patient or in the room that cannot be disinfected or fumigated. Keep the cellars, drains and outhouses well cleaned and disinfected and deodorized and thus stamp out all germs of disease. Intelligent co-operation with the Board of Health and following the advice of your physician will often avert an epidemic that will carry desolation in every family.

Healthy Cottages for Carolina Farmers.

By R. B. Hanahan, M. D., of Winnsboro, S. C.

Health is, or ought to be, the primary consideration actuating a farmer in the location of his domicile when settling the farm. He ought to consider not only the convenience but the character and quality of the soil, the drainage and ventilation, freedom from surroundings which would tend to induce disease; but he ought also to see that his location will give him a bright and cheerful aspect and one that can easily be improved and beautified. In the first place we will consider the location of the cottage. Most farmers seem to imagine it necessary that the house should be as near the main road as possible, entirely regardless of the direction of the prevailing winds, which add to or detract so much from the comfort of the inhabitants.

In our climate it is best to have a house fronting the South, for the winds from that quarter are always warm in Winter and we are not as much annoyed by the hot sun of Summer. It is a matter of indifference whether the house faces the road or whether a gable end is turned to it compared to the comforts of a South exposure. It is easy enough to overcome any exposure of the back of the premises by a winding avenue, or a hedge or line of shrubbery, which will serve not only to conceal but will serve at the same time to ornament and beautify the surroundings. It is advised not to select the apex of a hill for building, on account of the inconvenience of reaching the house after a hard day's work and the difficulty of transporting stores. But it appears to me that these are small evils when we consider the greater advantage of increased health. In this malarious climate of ours it is always advisable to be as high above any malaria-generating ravine or gully as possible, for we know that malaria does not ascend above a certain height; and if we can exclude that one element of disease a Carolina farmer will have done much toward making his home happy and increasing his prosperity. Another advantage in selecting the apex of the hill is the natural drainage which will be obtained and which will keep the yard dry, and will help considerably in keeping the house clean; for any one who has lived in this red clay country will recollect the difficulty in scraping it off the shoes, and after a hard shower during the Winter season it is almost impossible to avoid taking a portion of it into the sitting room, thereby increasing the labor of the lady of the house.

In conversation with a farmer upon this point, he told me that his father at one time had his gin house at the top of a hill, and the place where the mules turned the gin was always dry and hard; but that, having occasion to repair the building, it was determined to move it about half the distance of the slope of the hill, and that after a rain it was almost impossible to run the gin. He was compelled to cut a ditch above so as to drain the spot, and this will have to be done if it is decided to locate the dwelling on the slope of the hill. It is true that in our country, where stone is plentiful and can be had for the hauling, a permanent covered drain could be built and at very little cost. But any one who is accustomed to farm life must know the proverbial carelessness of a farmer, and the drain, which when built was intended for health, by some accident becomes clogged and is converted into a promoter of disease. It is an advantage in clearing the land for the house always to leave some trees. They serve not only to beautify, but are actually conducive to health, by absorbing the noxious gases and vapors arising from the earth; and during the Summer months they furnish a cool and refreshing shade, keeping the earth cool and protecting the house from the glare and reflection, which is more annoying than the heat. Besides, if there is a pond or ravine in proximity to the dwelling, a belt of trees between that nuisance and the house makes the difference between sickness and health. For it is a well known fact that a belt of trees or a brick wall will obstruct the passage of malaria; and in some book the circumstance is mentioned that the Island of St. Thomas, which formerly was as healthy as any of the West Indies, has, since the trees were cut down, become almost pest-ridden with malarial fevers. In advocating the presence of trees I do not mean that they should be left so thick as to obstruct the view from the house or the passage of the rays of the sun, for there is no substance produced artificially which can take the place of the sunlight.

The character and quality of the soil is a matter for consideration. Where it can be avoided, it is best not to select a spot largely composed of clay, for clay retains moisture after being thoroughly wet and keeps everywhere dirty and damp. A gravelly soil is best adapted, as it is porous, and superabundant moisture readily passes through; but where it is impossible or too greatly inconvenient, a soil largely intermixed with sand will answer; of course it is requisite to notice that there is no obstruction to the drainage or any impediment which will interfere with the outflow of water after sifting through the sand. It is hardly necessary to say, don't locate too near a pond or stagnant water, or water liable at any time to become so, and yet how frequently a loathsome pond, covered with green mold, is seen within a few rods of the house. For the sake of convenience in watering the stock the farmer is entirely

oblivious of the fact that he has at hand a disease-producing element, which could be covered over and wells be dug sufficient for all purposes at the cost of the medical attendance and other expenses incurred during a fit of illness arising from that cause. It is necessary, too, in the selection of the locality, to recollect not to place the dwelling in a spot where a free circulation of air is interfered with, for a free admixture of atmospheric air with the gases and stenches which unfortunately are too often encountered in the barn yards of a farmer will tend to neutralize and possibly destroy the poison arising from those depots of filth.

The site having been selected and the character and quality of soil considered, as well as the surrounding circumstances, we now proceed to build a cottage. The material for this purpose may be either wood, brick or stone; but as we are supposed to be building for a Carolina farmer and economy is an object, we will confine our remarks to the material most accessible and most economical. In our State, where forests are still to be found and saw mills are numerous, the pine boards furnish a good substitute for brick and stone for building purposes, and possibly the genial character of our climate makes them more available than they would be in a colder or more unpropitious region. I would say here, however, that the books on the subject state that the first cost is the only difference, for that the constant repairs requisite to keep a wooden house in good condition more than counterbalance the original difference in the expense. There are some points connected with the building of a house that ought not to be lost sight of. The first and most important is: that a square is the cheapest, and, at the same time, allows more latitude for a division of the interior than any other form of architecture. This is equally true whether we build of brick, wood or stone; for, in the first place, we save in the cost of the roof, which would be the same whether we divided the house into two, four or a dozen rooms. In the next place, if a second story be desired the same roof will cover it, and if rooms are added to the back a wall will be already built. Additional reasons will present themselves. For instance, it is always best to have no variation in the pitch of the roof, for there the tinner must come in, and any angles make additional expense. The dwelling ought to be elevated at least four (4) feet from the surface of the earth so as to permit a free circulation, which tends to render the surface dry and to remove any accumulations of filth; and in connection I would state that it is not only unadvisable but absolutely detrimental to health to enclose the space beneath the dwelling and use it as a wood house or for any other purpose. The accumulation of decaying vegetable matter must ultimately result in disease, which could have been avoided had this small point been attended to.

A proper regard ought to be paid to the ventilation of the house, for without sufficient admixture of fresh air the atmosphere of the room must soon be contaminated, and the importance of this is recognized by the public authorities in the arrangement of prison cells, where between 800 and 900 cubic feet is allowed to each occupant. Now we ought certainly be disposed to do more for our families than the authorities are willing to do for criminals, and we ought to manage so as to have at least 1,000 cubic feet to each member of the household. It is true that as a general rule the houses occupied by farmers are sufficiently ventilated through the cracks, doors, walls, &c.; still it ought to be regulated so that the feet and limbs of any one sitting near the fireplace may not be chilled whilst the upper portion of the body is almost roasted. This could easily be arranged by a screen or by attention to the location of the door opening on the passage or by admitting air through the upper sash let down for that purpose. The open fireplace is the best ventilator we can have; unfortunately, from the imperfect manner in which the chimneys are constructed, the back draft more than overcomes the beneficial use. In a bed chamber, where the air is most likely to become vitiated, (it requires double and more fresh air in a chamber,) it is safest always to leave a small portion of the sash up, and to avoid any draft on the bed it can be accomplished by sawing a piece of plank four (4) inches wide the width of the window and putting it at the foot of the sash. This will leave a separation between the upper and lower sash and air will pass in, taking an upward direction. A simple test as to whether the chamber is sufficiently ventilated is the sense of smell. If upon arising in the morning and passing into the fresh air and then returning to the chamber a person experiences no sense of oppression, no unpleasantness about the olfactory organs, then it is safe; but if upon arising in the morning he experiences a feeling of depression, headache, languor, an unrefreshed sensation from sleep, then the bed chamber has not been properly ventilated and he is suffering from that cause.

Attention may be called to one point in building. Do not ceil the room with boards; use plaster and laths. The reason for this is that a large amount of air will pass through a plastered wall and that will help to sift out the impurities of the air. Do not paper the wall, for papering cuts off the wall breathing and kalsomine does the same, so that a plain plastered wall is the healthiest. There is no objection to this wall being whitewashed with lime when it becomes soiled, as that does not obstruct the wall breathing. The importance of a proper ventilation cannot be over-estimated, for most of us can recall the circumstances attending President Garfield's illness and the stress that was laid on the imperfect ventilation of the White House and the strenuous efforts made to overcome it; also the numerous and costly appliances

invented to counteract the ill effects from that cause. It is unnecessary for me to do more than allude to the numerous ventilators in use, as the cottages built by farmers are not likely to need them.

The supply of water next engages our attention, and although every farmer says "his water is the best in the neighborhood," still, if we examine the surroundings of the well or spring, a distaste will quickly arise. A well ought to be sufficiently remote from the stable, privy and cow lot to remove any apprehension of its serving as a drain or of surface water soaking through the earth. It ought to be at least one hundred feet from either of those places named, and the brick or stones ought to be so arranged that no water can run into the well, for in that way many impurities find their entrance into the system. According to the present theories the wells are held responsible for the outbreak of epidemics of typhoid fever, diphtheria, cholera and kindred diseases; and the well known as Zem Zem, in the city of Mecca, is credited with containing the germs of plague, cholera, &c., and, being used by the pilgrims, the seeds of those diseases are scattered throughout the country. So that, independent of cleanliness, it becomes, as a sanitary measure, important to have the well properly located and looked after. It is necessary that the well should be cleaned at least once a year—oftener if possible. A simple test as to whether the water is pure: Fill a bottle with the water, putting in a tablespoonful of best white sugar. If after standing for forty-eight hours it is not cloudy or milky, but remains clear and bright, there are no impurities. In water from a spring or small brook there is no calculating upon the impurities we drink.

It is requisite to pay some attention to the location of the barns, stables and outbuildings. Do not place them in front or alongside of the domicile, for the dwelling will never be free from odors, offending both the senses of smell and sight, besides interfering with the cleanliness which ought to pervade all of the surroundings. Let the outbuildings be placed back—away from the dwelling—out of sight if possible; if not, plant a hedge to obstruct the view. It is important to keep the premises swept and clean, for cleanliness is essential to health; and although we can, by the use of deodorents, destroy offensive odors, the question is whether we destroy the germs of disease or are only substituting one smell for another. Every moment of time and every dollar spent in cleansing and purifying the premises will be repaid a hundred fold in the increased freedom from sickness and disease. In front of the dwelling plant a few flowers—even of the common varieties; they tend to civilize a man, and will be a pleasure and relaxation to the good wife when her domestic labors are over. This, strictly, is not a sanitary measure; but anything that will conduce to the happiness and contentment of the family must be conducive to health, and it will serve as an

incentive to the cleanliness of the immediate neighborhood of the domicile, and anything that tends to cleanliness is certainly one of the means to health and deserves a place as a sanitary measure. Do not allow the outbuildings to remain unpainted, or, if we are not able to paint, use a wash composed of lime—colored to suit the taste; it is cheap and helps to preserve the boards of which we presume the house is built. It looks neat, and, being of easy application, can be renewed from year to year.

In the course of my practice I have been struck with the large numbers of farmers who apply to me for relief from dyspeptic symptoms; and as I am writing on healthy homes for farmers, it will not be amiss if I briefly express my views on their diet. I had always supposed that a farmer's occupation gave him almost entire immunity from that disease, but have found that greater numbers of that class present themselves than any other. The symptoms being almost identical in all cases are unnecessary for me to detail, but I could not help arriving at the conclusion, from that very similarity, that there must be a common cause. After inquiring of a great many as to their diet and mode of eating, I felt satisfied that the monotony of their food had much to do with, in fact was one of the causes of, this universal complaint. Farmers, as a rule, live on bacon and corn bread, varied with badly-cooked wheat flour, from year to year. Those who follow the plough are obliged to eat heartily to supply the waste, and their food not being assimilated produces and keeps up their dyspepsia. Besides, their food is miserably prepared; the frying pan occupies a prominent position in their kitchens, and most of us who had any army experience are aware that this utensil furnished indirectly more victims for the grave than the Yankee bullets. The bread that they eat is in most cases unfit for food; they use large quantities of soda in the preparation, so that it is often perceptible not only to the taste but also to sight. When you add to this the common dish of greens, the stomach must be remodeled and made of different material if it does not get out of gear and refuse to do its work. I think our farmers would find it to their interest and health if they would use soups at their meals. Soup is healthier and more nutritious, and with the addition of a few vegetables a change can be made from day to day, doing away with the monotonous dish of bacon and corn bread. Again, the manner in which the food is bolted tends to produce the disease. There is no time allowed for mastication; the victuals are hastily swallowed, and immediately the farmer returns to work, giving no opportunity for digestion to take place. Every one must have experienced the discomfort of action after a hearty meal, and the experiment of the physiologist with the two dogs is no doubt familiar to all. After eating one dog was taken out to run, the other allowed to remain quiet. When they were killed the one that had been running had his dinner undi-

gested in his stomach, whilst the stomach of the other was empty, so that "physiology and experience both teach us that a rest is necessary after our meals."

The excessive use of tobacco must be injurious, and frequently when called upon to prescribe for a "heart disease," I find some gastric derangement, supplemented with a liberal use of the "weed." I have endeavored to point out some of the causes of this form of disease, and I would gladly suggest the remedy for them if it were possible to carry it out; but as long as our present system of female education is persisted in, and it is thought more polished to be able to play a few tunes on the piano, or to dance the racquet, than to be able to superintend the cooking of a dinner for the husband, I very much fear that one cause for the farmer's dyspepsia will still remain. Upon this point I will quote the remarks of Dr. Sinclair. He says: "There are some indications abroad that a time is approaching when the art of cooking will be considered of as much importance in the education of girls as the three R's. Let us hope that our digestive organs will hold out, that we may live to see it; and we trust that, in the meantime, the *old girls* will not be above profiting by any hints that may come in their way."

The Air We Breathe and the Meat We Eat; or the Relation of Slaughter Houses to the Public Health.

By John B. Elliott, M. D.,

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It may be safely asserted that the advancement of a community is most accurately measured by the care it bestows upon the conditions of life. Attention to these conditions gives evidence of a clear apprehension of the truth that health is one of the factors upon which prosperity depends, and demonstrates that the community has realized it with sufficient vividness to enforce the conditions for health by legal enactments that are strictly executed. To recognize the fact that death rate can be measurably controlled by law is one of the great advances of the nineteenth century, while the enacting and enforcing of such sanitary laws has necessarily become the measuring rod of progress for the modern community.

Every organized community undertakes to protect the life and property of its individual units. No elaborate argument is therefore needed to show that so long as sanitary measures are left uncared for the governing power is neglecting the protection of life, and, in the same ratio, the protection of property. To what extent this neglect reaches, statistics plainly show. Sanitarians agree that the death rate of a community can be reduced, by the exclusion of preventible diseases, to 15 per 1,000 of population. This is equivalent to asserting that in a community whose death rate is 30 per 1,000 one-half of the deaths can be prevented by properly executed laws; or that in a population of 50,000 inhabitants 750 lives are lost annually because those entrusted with the protection of life and property neglect their duty. The laws of a community are framed to protect against loss of life and property from violence; but when it is realized that deaths from violence do not reach 1 in 1,000 of population per annum, while the loss of property from like causes is almost zero, we are enabled to recognize how far short of fulfilling its functions the average municipal government falls. While protecting man from the violence of his fellow man, no steps are taken by the average community to guard him against the approach of malignant disease, and this is an omission the more reprehensible in that these unseen enemies select with unerring accuracy those least able to resist—the young, and those whose conditions of life render them easier victims—the poor.

The truth that death rate affects property value has been sadly realized in many cities of the South in the last decade. Capital shuns with studied care those centres where disease interferes with commerce, and it may be relied upon that as soon as the intimate relation between health and property value is vividly realized the bulletins of the National Board of Health will become as indispensable to the investors of capital as they are to the sanitarian.

Exclusive of quarantine laws, the subjects that sanitary legislation must necessarily embrace may be classed under two heads: Laws to insure the purity of all forms of food, (air, water and foods proper,) and laws to insure the proper disposal of all excrementitious matters, or, in other words, laws to protect the individual in all that enters into the community as food, and laws to protect the community from all that passes out of the individual as waste matter. That these are proper subjects for the action of the community rather than for the individual, the slightest reflection will show. To see that his house is properly arranged for the ingress of fresh air, and that the water supplied him for use receives no impurity from carelessness in the household is the duty of the individual, but the governing power alone can insure the purity of the general supply. The individual, by his own exertions, must obtain the money with which to purchase his daily meat, but as a unit he is entirely powerless to protect himself against impurity and fraud in the substances purchased. This protection, also, must necessarily be a function of the power that governs. These are broad and patent truths, and unless they are recognized and acted upon the individual must suffer in person and in property, and the death rate of a community neglecting them must make it rank among those centres from which capital will be turned as inevitably as flowing water is turned aside by an obstacle in its course.

Such are the general considerations that should stimulate us to earnestness in sanitary measures. A more detailed study becomes necessary if we would learn how much may be done towards the prevention of disease. The questions that naturally arise in the mind of a civilian upon whom sanitary measures are urged are essentially practical: "What knowledge does sanitary science possess that will warrant effort upon my part"? or, in the absence of knowledge, "by what practical results have former efforts been rewarded?" Answers to these questions are necessary before that conviction can be attained which is the prerequisite mental condition to confident action, and some consideration of them will be a fitting introduction to the immediate subject of this paper.

In answer to the first question, it may be replied that the very existence of a science of health is a proof that a great truth has at last been recognized—the truth, namely, that alongside of medicine proper, or the science of disease, there is another great science—hygiene—the science

of health; that while the sphere of medicine is limited to the cure of disease in the individual, hygiene has the vastly wider duty of preventing the appearance of disease in the masses of a people. This recognition is indicative of a great awakening, for it shows a clear perception of the fact that it is against the potential causes of disease at large rather than against their effects in the individual that we must strive. The proofs that this can be done successfully lie scattered all through the history of the past, and it has been through an induction from these accumulating particulars that the prevention of disease has been established as a great principle destined to advance incalculably the welfare of mankind.

The actual knowledge possessed by the sanitarian may be divided into a knowledge of the causes of disease and a knowledge of the conditions that favor the occurrence and spread of disease. Concerning the first, an ideal state of sanitary science would be one in which the causes of all diseases were known. To this ideal every energy of modern science is striving; but while this ideal state is necessarily a future one, enough has been already accomplished to establish a fixed faith in its ultimate attainment. The knowledge possessed at present in regard to the causes of disease in man, although limited, is of the greatest interest. Relapsing fever, diphtheria, tubercle, may be mentioned as diseases concerning whose causes an approximate certainty exists. In every one of these cases the supposed cause consists of a living organism. The interest of this fact centres in the connection that has been established by M. Pasteur between the life processes of microscopic fungoid organisms and the phenomena of fermentation and putrefaction—a connection so intimate and universal as to warrant him in the opinion that organized bodies can only be broken up into inorganic matter through the action of these microscopic forms of life. The advocate of the germ theory of disease would say that this connection between the life processes of these organisms and the decomposition of organic matters throws a flood of light upon the success that the sanitarian has attained by insisting upon cleanliness, for cleanliness means removal of decaying matter, and in the creed of modern science decomposing vegetable and animal matter means simply that microscopic organisms are living and reproducing themselves at the expense of the organic masses.

So important is the direction these discoveries give to modern thought that public attention cannot be too earnestly directed to the deductions flowing therefrom. Modern science seems to be slowly, but surely, demonstrating the truth that besides the two great divisions of organic nature—the animal kingdom on the one hand and the vegetable kingdom on the other, with their well recognized functions,—there is a third kingdom, the limits of which are ill defined, and shadowy, yet whose functions are distinct; that while to the vegetable kingdom belongs the

function of storing up force for the use of the animal, to this third kingdom, of which the fungi may be taken as the type, belongs the function of decomposing and breaking up organic matter into inorganic forms for the use of the plant; that decay and putrefaction, the definite purpose and physical end of this third kingdom, is as absolutely essential in the economy of the globe as is the constructive function of the vegetable kingdom. The application of this conception in explanation of the causes of disease we find in the germ theory, where disease is regarded as a physiological disturbance caused by microscopic fungoid organisms reproducing themselves in the blood and so altering its condition as to render it unfit for its functions. The discovery of the supposed causes of the diseases above mentioned gives a decidedly probable basis to the theory and warrants very definite opinions on the part of sanitarians. From such a distinct conception as the germ theory sanitary science can deduce definite and distinct modes of action for the prevention of disease—modes of action directed to the freeing of our cities from all such conditions as favor fungoid life, and actions directed even to the destruction of such organisms after they have entered into the blood. Sanitary science is therefore possessed of sufficient knowledge to give very decided point to its efforts.

Concerning the knowledge of conditions, or the second order of knowledge possessed by the sanitarian, much more can be said than concerning the first. Experience gives a much more certain response in the matter of conditions than of causes. To the germ theorists the sanitarian can say that it matters little to him whether the organisms or germs are the true causes of disease, (germ theory,) or whether the products of the decomposition of organic matters are the active factors (theory of inorganic poisons). He prevents disease under either theory by removing all forms of matter that will suffer decomposition. Whatever the causes may be he does not pretend to know, but he destroys the conditions that experience has taught are the universal accompaniments of disease. While, therefore, a knowledge of the true causes of disease is of vast importance, and is necessary for the most economical and perfect sanitation, yet a practical knowledge of the conditions that favor the development and spread of different diseases gives perfectly solid ground for the efforts of the sanitarian.

As evidence of the disappearance of disease under change of condition, we may cite the disappearance of the plague from London in the seventeenth century, when the progress of civilization had introduced such changes in the conditions of life as made that pestilence an impossible occurrence. How Howard abolished the jail fever from the English prisons by simply abolishing those conditions by which the prison differed from the healthy English home. How the drainage of malarial regions causes the disappearance of malarial forms of disease. And, lastly, how

the inductions of Bowditch and Buchannan have demonstrated that if mankind expects to get rid of tubercle, one of the means must be by making dry the soil upon which he dwells. This latter induction is in no way weakened by the fact that Koch's researches have probably demonstrated the cause of tubercle to be a living organism; for until we can find an agent that shall destroy the organism in the body without injuring the individual, we can only combat the disease by removing those conditions that have been shown to favor the propagation of the organism.

These are the facts by which the skeptical civilian can be assured both as regards the knowledge of the causes and of the conditions of disease. A brief study of the history of sanitary effort in the United States since 1869 will assure him likewise that practical results of the greatest magnitude have been already attained, and will convince him further that in communities it is not through the isolated action of the individual that good can be hoped for, but only through the collective effort of the whole as wielded by some central body to whom such power has been delegated.

The external conditions necessary to health can be briefly summarized under—

Pure water,
Pure air,
Clean and dry soil,
Wholesome food.

The mere enumeration of these conditions makes it at once evident that in a thickly populated township the individual is helplessly exposed to danger, no matter what his own convictions or desires may be. The first of these, pure water, we pass without notice, as being perhaps the best recognized of all the necessities, and also as not bearing immediately upon the subject of this paper. Touching the second, its connection with health can be best illustrated by the following table constructed by Dr. Farr, cited by T. B. Curtis, M. D., in "*Infant Mortality*," Hygiene and Public Health, by Bucks, Vol. II, p. 285, which demonstrates that death-rate increases directly with density of population, which means directly with a diminishing purity of the atmosphere:

Death Rate, All Ages.	Death Rate, Under Five	Persons per Sq. Mile
16.	37.80	166
19.	47.53	186
22.	63.06	379
25.	82.10	1,718
28.5	95.04	4,499
32.	111.90	1,2357
39.	139.50	6,5823

These figures make it also vividly manifest that it is the young who suffer most from polluted atmosphere.

Opposing this, it may be claimed that no human power can protect the individual against the exhalations from the thousands about him, and this is at present a valid claim so far as the exhalations from the skin and lungs are concerned; but as regards the palpable excreta from the body no such claim can be sustained. Nor would any such excuse avail against those sources of atmospheric contamination arising from the needless and reckless accumulation of putrescible matters in and about a city. The air we breathe is one of our indispensable foods. It is *the food* that we cannot for a moment decline to take, no matter how impure it is, and to permit its constant and unabated poisoning is even more culpable than to permit the deliberate contamination of the water we drink or the adulteration of the food we eat. A steady regard of this truth can scarcely fail to make us realize that the negligence of a central power permitting such pollution is little short of criminal. From such atmospheric poisoning in our cities the great mass of our populations cannot escape—they can only endure; yet they will soon learn that a much purer atmospheric food is attainable even in our cities, and will recognize its possession as an inalienable right doubly due them, since they cannot fly from it when pollution has rendered it poisonous.

As contributing to the same atmospheric purity is the cleanliness and dryness of our streets. A moist soil, impregnated with decomposing organic matters, exposed to a Summer sun, is a condition favoring the intensification and spread of every form of disease. Of such organic matters the animal are far more prolific of evil than the vegetable. Upon either theory of the causes of disease, the germ theory or the theory of inorganic poisons, this statement holds true; for under the former the complex molecules of animal matter, with their contained nitrogen, sulphur and phosphorus, afford a more appropriate nourishment for fungoid growths, while under the latter theory they give rise to a greater and more offensive variety of gases. For the systematic daily poisoning of the atmosphere by the deliberate exposure of decomposing animal matters there can be no excuse. It is no palliation of the matter to assert that these iniquities are perpetrated only upon the outskirts of inhabited centres, for these outskirts contribute to swell the annual death rate, and the death rate of our Southern cities will measure approximately their possible future prosperity. Furthermore the epidemic originating upon the outskirt cannot be prevented from invading the centre, and so at last the community as a whole will be measured abroad by the standard of its filthiest precincts. The simplest intelligence can scarcely fail to perceive from such considerations that the care of a part is essentially the care of the whole.

In regard to the last of our necessities—wholesome food—the citizen needs no education to make him realize its importance; yet some words upon this point will reveal existing risks and dangers of which the great mass are ignorant. Disease in the living animal is often possible of detection only by the expert who has made some study of the subject, so that the unintentional slaughtering of diseased animals and the marketing of their meat is of frequent occurrence in every city market. Such meats being difficult of detection, even after they have been prepared for sale, the unsuspicious citizen who sees only the butchered meat exposed has no means of protecting himself from fraud and perhaps disease. The extent to which this imposition exists, unconsciously often to the salesman himself, is made manifest by the following summary taken from the statistics of cities where inspectors are appointed for the purpose of preventing such occurrences.*

During 1874 there were condemned:

At Chicago, 611 quarters of beef, 166 carcasses of mutton, 107 calves, 7 hogs, &c.

At New York, 20 cattle, 1,103 calves, (997 less than a month old,) 268 sheep and 50 lambs, 293 hogs, 39 tons of meat.

At Pittsburg, 27 cattle, 35 sheep, 10 tons of meat.

At Washington, during the latter half of the year, 6 cattle, 8 sheep, 11 calves, 1 hog, 7 tons of meat.

In London an average of 100 tons of meat is condemned yearly.

These statistics make manifest the amounts of meat that without pervious inspection would have been exposed for sale; and we may rest assured that where no inspection of animals before slaughter or of meats after butchering is compelled, the same ratio of unhealthy meat is disposed of in every city.

This general consideration of the necessity for sanitary measures, together with the review of those particulars in which the individual needs protection, is an appropriate preface to the inquiry as to how far these necessities, general and particular, are fulfilled or violated by the usual system of small and scattered

SLAUGHTER HOUSES.

The management of a slaughter house may make it, as a public nuisance, vary between wide limits. We may have the simple and primitive yard, without drainage or water supply, in which the animal is slaughtered and the blood left to find its own resting place in the soil; where the offal is carelessly handled and but partially disposed of; where

* This summary is taken from an article by Dr. Chas. F. Folson, Secretary of the Massachusetts Board of Health, published in the report of the Board for 1875.

the atmosphere reeks with putrefaction, and where the meat prepared for market leaves its surroundings already tainted with the seeds of decomposition. Or, on the other hand, we may have the more pretentious management, where the blood is asserted to be collected and disposed of, where the offal is utilized, and where fat-melting and bone-boiling is carried on as a means of disposing of refuse and as an additional means of revenue to the proprietor. The first is the extreme limit of rural simplicity and is inexcusable even upon the outskirts of a village. The second is a more complex and complete system, yet one seldom reached by the small proprietors of the scattered slaughter houses of our cities. To make the last, with all of its processes, even endurable requires many special provisions. These are, as regards the living animal, ample accommodations, with food and water, where they can recover from the fatigue of transportation; and as regards the slaughtering, an impervious floor or pavement where the slaughtering is done, means for the complete and immediate removal of all blood and decomposable refuse, an unstinted water supply, and a system of drainage that ensures the rapid emptying of all washings into deep and moving water.

The first provision is to the small proprietor too often a matter of indifference. The live stock purchased for slaughter is scarcely considered as an animal to be cared for. Twenty-four hours of indifferent food and accommodation will make, he thinks, but little difference in the carcass destined for the market. The possible pathological conditions induced by over-fatigue, fright or maltreatment are remote contingencies that leave upon the butchered meat no signs that the eye can detect, and so all precautions, save such as are needed to render the meat visibly sound and salable, are neglected as non-paying investments. What might have been the condition of the animal before slaughter must always remain for the consumer an insoluble mystery—a mystery that the average consumer, as a rule, deems it best to leave unsolved.

Aside from the question of the meat as food, the provisions necessary to prevent slaughter houses from becoming public nuisances by their mere existence in a neighborhood rarely receive the attention of the small proprietor. In most slaughter yards the blood is regarded as a waste matter that is to be disposed of in the least expensive and inconvenient way. Yet, to prevent it from becoming an offense to a neighborhood, there is but one method for disposing of it, namely, careful collection as it flows from the animal and prompt removal, whether its final destination be for use or for waste. As, nevertheless, with the greatest care, a certain amount of blood will find its way to the surface of the yard where the slaughtering is done, this surface should be constructed of some substance impervious to the liquid. Unless this care is observed saturation with and decomposition of the blood must occur,

with all its attendant evils. Such a provision as this is the exception rather than the rule, for it means care taken and money spent for the safety and comfort of others.

Provisions for the disposal of the offal, fat, bones, &c., are as various as are the characters and means of the proprietors. Those who recognize in these waste matters a source of income pay some attention to their careful preservation and removal. Some may even attempt fat melting, bone boiling and offal rending on their own premises, and so, while protecting a neighborhood from the effects of the waste and decomposition of the refuse, render their establishments scarcely less obnoxious by the incomplete methods adopted for the different processes.

The experiences of New York and Boston have proved that unless large sums of money are invested for proper apparatus and appliances for these industries they cannot be deprived of those objectionable features that constitute them public nuisances. In the average slaughter yard the careless handling of this refuse, even where it is properly disposed of, makes it impossible to prevent the soil from becoming impregnated with decomposable matters and the atmosphere from being poisoned by decomposition products. It is thus apparent that even with extra care the better class of slaughter yards cannot prevent that surface contamination which must ensue where impervious substances are not used for pavement or flooring. What the condition of the inferior class of yards must be can be conjectured. The unavoidable splashing and dripping of liquids and scattering of solid fragments in most yards must produce conditions of soil and surroundings favoring the spread and intensification of every form of disease and form centres from which impurities are continually supplied to the atmosphere.

The final provision of an unstinted water supply and of a system of drainage leading to deep and moving water are absolute necessities where sanitary cleanliness is desired. The constant and free use of water over the surfaces where the animals are killed and butchered is the only method by which that intangible refuse can be removed whose accumulation will in a short time render any yard a nuisance. In order, too, that this free use of water may have its full effect, there must be for it rapid and unimpeded access to deep and moving water. Any collection or stagnation of such wash-water in sewers or drains simply removes the nuisance from the immediate premises to others more or less remote, and cannot, therefore, free the slaughter house from the charge of being a nuisance. It can also be readily understood how, in order to make this surface washing thoroughly effective, the surface must be impervious to liquids.

This brief review of the conditions necessary for sanitary cleanliness in slaughter houses will serve to show by their mere statement that the

slaughtering of animals at scattered points and by small proprietors cannot be so conducted as to avoid the evils incident to the business. The provisions and appliances that sanitary science demands in order to protect the air from pollution and the soil from impregnation with decomposing matters require the investment of capital beyond the means of a small proprietor. Furthermore, if by a small proprietor such appliances were constructed, it would probably be at an outlay for which a small business could promise no adequate return, therefore involving in its inception the promise of its discontinuance. Again, the need for a bountiful water supply and easy access to deep and moving water means, perhaps, one or two possible localities in a municipal limit, and, consequently, the confining to one or two establishments the possibility of this necessary privilege.

The intelligent citizen, as well as the sanitarian, can realize, from all that has been said, that there is but one safe principle for the control of such a business as slaughtering, and that is CONCENTRATION. Concentration of the business in one place reduces by just the diminution in number the chances of evil to soil and atmosphere. Such concentration in place means likewise for the whole business the most available place in the municipal limits. Concentration of many small investments in one enterprise yields at once the capital necessary for the safe and still more economical conduct of the multiform industries growing out of the slaughter of animals for food, and the same concentration of capital makes likewise possible the inauguration of new forms of industry that would be utterly profitless if undertaken with the small amounts of material available to the single proprietor. Above all, such concentration means a large and always prominent industry, whose very magnitude and importance would fix upon it the public attention and assure the people, under such a stimulus, of the proper conduct of a department so vitally important to their health and prosperity.

In matters of health man seems slow to learn. Accumulated experiences are to him but the waste heaps of the centuries—venerable stores, possessing a certain amount of theoretical value, but utterly unavailable for good, he thinks, in the affairs of every day life. The more universal the experience, the greater is apt to be the degree of indifference. The more intimately it affects him, the less vividly seems to be realized the necessity for its removal. It would be a slur upon the intelligence of the age if some good cause could not be shown for this indifference. Our generation has demonstrated that money is never lacking to advance a project shown by experience to be for the moral good and material prosperity of our people. For such a a cause we have not far to seek, for it is plainly recognizable in the almost general lack of faith in the fact that world-old evils attested by a universal experience can be

removed. Few are prepared to deny that pure air is healthier than polluted air, for this is one of the waste heaps of experience; but fewer still are prepared to recognize our ability to keep the air pure.

Again, despite the vast experience concerning the evils of impure air, there are but few who thoroughly realize the terrible part it plays in increasing the death rate. This is the great fact that the sanitarian is striving to teach, for he believes that if modern science as applied to hygiene has a mission on earth it is to make the human race realize that the diseases incident to man come chiefly through influences from without; that the normal condition of the bodily organs is one of health, and that their defaults are but the indices of external conditions. It is difficult for the healthy adult to conceive the baleful influence of polluted atmosphere. Nothing short of such an extreme experience as the Black Hole of Calcutta has for him any lesson. The imperceptible effects of a daily poisoning from such a source are to him intangible and unrecognizable, and when their accumulated results culminate in a physiological collapse, he seeks for some immediate and palpable cause rather than ascribe it to the cumulative effects of a constantly acting poison. The tables we have cited above record for us in flaming numbers the baleful influence of impure air and enable the adult to see in the frightful mortality of the young a true expression of the effects of atmospheric pollution. The young and the feeble are the sufferers. The physician in his daily round is perhaps the only one who recognizes the prime cause of their sufferings. When the balance of chances is equal for life and death, scarcely is there a practitioner who cannot cite cases in which the free access of fresh air has decided the turn of the scale for life; and the experiences gathered in these crucial tests are but glaring instances where common but unrecognized causes attain at long intervals their proper estimate.

As has been said, air is the only food we cannot for a moment decline to take. Take it we must, though it contains the poison that is to cost us our lives. What the public requires is an education upon this point that shall leave them not with mere passive opinions, but with active convictions. When this has been achieved, then will they realize the imperative duty resting upon them of insisting upon such measures as shall render the air they breathe as pure as human effort can make it. To such an end the abatement of the nuisances considered in this paper will powerfully contribute.

What has been said touches the relations of indifferently constructed slaughter houses to the atmosphere we breathe, and sufficient has been advanced to show that unless they are conducted with every modern appliance for keeping the soil and air pure and free from taint they must be considered as invading the rights of the people and as militating

against the prosperity of a community. We have reserved for separate consideration the means available for the protection of a community against the issue from these slaughter houses of improper meat as food.

In every trade we find the moral standard fixed by a very simple rule: Realize your capital and per cent. if you can; take care of yourself, and let the purchaser take care of himself. The tradesman's conscience is satisfied by the consideration that the customer has the ware before him and takes it with his eyes open. We cannot expect the butcher who invests his capital in perishable material, and who likewise risks deception in his investments, to have any higher moral standard than rules the average tradesman. According to his code he too must realize, and the public must share with him the risks of his purchases. And so the public does. And fortunate is the public that takes only a share. The trade we are treating of, however, differs from other trades in the fact that it supplies entire communities with an indispensable article of food, and communities cannot afford to take risks in a matter so vitally important. Further, the taking of risk in the matter seems the more intolerable, since no risk is necessary either for the butcher or the public if the proper precautions are insisted upon.

The only precaution that can be taken is inspection before slaughter and after butchering, and the only way in which inspection can be made effective is by the concentration of the business in one general abattoir. Here, again, we see that the concentration necessary to protect the public against the impurities of soil and atmosphere arising from scattered and inefficiently conducted slaughter houses is also the only solution of the problem as to how the citizen shall be protected against imposition in his meat supply.

That inspection before slaughter is necessary scarcely needs argument for its support. Animals, like man, are the subjects of disease both parasitic and organic, and the physiologist knows that disease means altered processes of nutrition and tissue building that must affect the value and wholesomeness of the meat as food. To what extent the various diseases of cattle render their meat dangerous to the consumer has not yet been determined, for inquiry in this direction has not been up to this time sufficiently extensive to yield reliable statistics. Nevertheless, sanitarians possess sufficient data to make them assert with confidence that the meat from a diseased animal is unhealthy and should be guarded against. Inspection is the only method by which the public can be guarded, and this inspection should be both of the animal before slaughter and of the meat after butchering. Both are necessary, for disease can be detected in the living animal that cannot be detected in the butchered meat; while, on the other hand, living animals that pass inspection often reveal *post mortem* evidences of disease

in their organs or tissues, this latter being notably true of the parasitic diseases. Space does not permit the enumeration of the diseases that affect the stock used for food, nor the special dangers that may be risked from the various organic or parasitic forms. It can only be insisted upon that the meat of diseased animals is sold in every city; that this danger to the citizen can be avoided by inspection, and that complete inspection can be made thoroughly effective only by concentration.

History teaches us that the power and prosperity of a people advances as they improve their conditions of life. A robust national manhood, as expressed in brain work as well as in body, is the outcome of physical influences favoring the physiological well-being of the nation's masses. The development of the favored few whose wealth gives them the means of commanding every desired quality of food and climate cannot be taken as the index of the well-being of a people. We must judge in such matters by the masses. They can not move. They must endure the evils that have been allowed to gather about them, and they in their bodily strength and energy can be but the reflex of such surroundings. Given: pure water, pure air and pure bread and meat, or, in its broadest sense, pure *foods*, and the factors will have been secured by which the highest development of the human race for a given climate can be attained. If a people can be made to realize this truth, and can in addition be made to understand that it is completely in their power to command these conditions, our statesmen would become our foremost sanitarians, and a Health Department would be insisted upon by the people as an indispensable branch of the general government. If, furthermore, the people of the Southern States could be made to realize the fact that the maintenance of these favorable surroundings becomes more difficult as the equatorial latitudes are approached, they would awaken to the duty that lies upon them of insisting, through every channel open to the popular voice, upon the securing and maintaining of those conditions that are now recognized as absolutely necessary to their physical well-being and material prosperity.

JOHN B. ELLIOTT.

EXCESSIVE USE OF TOBACCO.

By Dr. James Evans, Florence, S. C.

Tobacco is the dried and manufactured leaves of the Tabacum Nicotiana, an annual plant indigenous to America, but cultivated at present, to a greater or less extent, in every quarter of the globe. It derives its name from the province of Tabacum, situated about 40 or 50 leagues from the City of Mexico, and which is likewise celebrated in history as the scene of one of the famous battles fought and won by Cortez in 1519. John Nicot, of Nismes, the French Ambassador to the Court of Lisbon in 1560, has the honor accorded him of giving his name to its generic title. This gentleman procured, about this time, some specimens of the plant from Florida and cultivated them in his garden. Afterwards he sent some plants to the Queen of France, which were successfully grown in the royal gardens in Paris. Columbus and his companions when they landed on the island of Cuba were struck with the strange habit which prevailed among the inhabitants of rolling the dried leaves of this plant together and smoking them. Sir Francis Drake, who landed on the coast of Virginia, Cartier, who visited Canada, observed the same habit among the aborigines on the continent. Here, however, instead of rolling the leaves together, they used pipes made of clay, and the former navigator, on his return to England, brought back with him some pipes and specimens of the plant. Under the patronage of Sir Walter Raleigh the practice of smoking soon obtained favor among the courtiers at court and inspired King James I. to write a very scurrilous and abusive article against the use of the noxious weed. The practice was introduced into the Netherlands by some students who were pursuing their studies in that country at this time, and from them it spread over the continent.

The leaves simply dried have not the strong, pungent and narcotic odor so peculiar and characteristic of the manufactured article. In the process of curing the leaves are sprinkled with a little salt water and heaped up until fermentation ensues. Ammonia is formed by the partial decomposition of the nitrogenous principles of the plant, which, combining with an acid, sets free some of the nicotia, and this, with the ammonia, imparts the characteristic odor. The dried leaves which have not been subjected to fermentation contain a much larger quantity of this active principle. Some observers estimate that they contain three or four times as much.

Nicotia or nicotine is the peculiar alkaloid upon which the poisonous properties of tobacco depend, and is a most virulent poison, which in its swift deadliness is hardly surpassed by prussic acid. The varieties of the plant which are grown in the States of Virginia, Maryland, Kentucky and the Carolinas are much richer in this alkaloid than that which is cultivated in Cuba and from which the Havana cigar is manufactured. The latter contains only two per cent. of nicotine, while the former is estimated at from four to eight per cent. There are many other poisons in tobacco, but they exist in such inappreciable quantities as render their consideration unnecessary. Tobacco is poisonous to both plants and animals. The rose and geranium when subjected to the fumes arising from the fermentation of tobacco, or placed in rooms where it is continually smoked, become sickly and stunted in their growth. It is quite destructive of insect life, and is a popular domestic remedy for the various parasites which infest vegetables and also the lower animals. The caution should here be given that the infusion of tobacco with which animals are washed is not devoid of danger, as it sometimes produces fatal prostration. But few animals will feed on the growing plant. I know of none but the goat and deer. Frogs are very susceptible to its poisonous action. The infusion or smoke slows the heart and respiration after first quickening them, and if a sufficient dose is given the fore legs become paralyzed, and finally the animal passes into a state of rigidity and dies. I have frequently seen persons chew tobacco and spit the juice in the mouth of the moccasin, the reptile which is so common in our swamps and marshes. The snake writhes and throws itself into various contortions, then becomes rigid, torpid and motionless for several hours, when it slowly recovers or dies. It is a remedy frequently administered to horses for colic, and is not free from danger, as it is difficult to control its depressing effects within the limits of safety. Indeed, it is not uncommon to see these animals so dosed with it as to be seized with excessive nausea and trembling. The pulse and respiration sink, the skin is bathed in perspiration, and the animal dies from sheer prostration induced by the remedy more than by the disease.

In the series of experiments on dogs conducted by Bradin and Wright of England, and Dr. Mussey of this country, similar results followed the administration of the infusion or the distilled and empyreumatic oils of tobacco. The circulation and respiration were first quickened, then slowed and finally arrested. When small and gradually increasing doses of any of the products of tobacco were given, the symptoms were not so sudden and alarming as when larger doses were exhibited, but proved quite as fatal in the end. The animals became listless, would not eat, and were indisposed to move about, from an evident loss of power in the hind legs. There was want of the venereal power and shriv-

eling of the testicles. The coat became rough and the hair began to fall, and finally sloughing of the eyelids and blindness ensued. When pure nicotine is given the breathing becomes anxious and labored, the pulse slows and is almost imperceptible, the pupils are dilated and the eyes prominent, tremulousness affects the muscular system and the animal finds difficulty in walking. Efforts at defication and urination are continually made, extreme prostration follows, attended with cold extremities, slavering at the mouth, nausea, retching and vomiting, and finally convulsions and death. Schroff, and more particularly Riel, in experiments on himself with nicotine, obtained results similar to those described as taking place in animals. These experiments prove that nicotine is the active principle and poison in tobacco upon which its effects depend.

Chewing, smoking and snuffing are the usual modes of using tobacco. When taken in moderation in any manner the use of tobacco cannot be said to affect very injuriously any man of average health and constitution. The young, and persons of delicate and feeble organization of all ages, cannot indulge even in moderation the use of such a depressing agent without serious impairment of the health. The fondness for tobacco is acquired. Not the least strange fact about it is, that notwithstanding its taste and odor is so nauseous and repugnant to every individual at first, that its use should have extended so rapidly among mankind that now millions of every race and clime regard it as one of the greatest boons bestowed by nature on man. It must meet some want or craving of our nature which is as universal as the race and which it alone is capable of satisfying. Probably the charm which it possesses consists in the restlessness which it calms, the mental and corporeal inquietude which it soothes and the delightful repose which steals over the senses and makes us for the time being oblivious of the cares and anxieties of life. When tobacco is taken in moderation in any of the modes commonly practiced by those addicted to its use, these pleasureable sensations are produced.

Taking snuff, even to excess, cannot be charged with the mischievous results, which follow the excessive indulgence in chewing or smoking. It acts in any quantity as a local stimulant to the mucus lining of the nose, producing sneezing and a free flow of mucus. The sensibility of the olfactory nerve is blunted and the sense of smell impaired. The continual stimulation of the nose in time produces enlargement and hyperthropy of the organ, and it usually presents a highly red and congested appearance. In great snuffers the throat is more or less affected by a chronic granular condition of its surface, which alters the voice, imparting to it a nasal tone. Besides this, the fine particles of tobacco in the act of snuffing are frequently sucked into the internal auditory canal

and give rise to sufficient irritation to affect sometimes the hearing. These fine particles likewise find their way through the throat into the stomach and produce the distressing symptoms of dyspepsia. Much of the snuff manufactured is adulterated to some extent with the preparations of lead with a view of rendering it more pungent. There are numerous examples of lead poisoning induced in persons addicted to the excessive use of snuff adulterated with this mineral. When this habit is confirmed, it seems to exert as much dominion over its votaries as chewing or smoking. Merat mentions a singular instance of a man whom he found in the forest of Fontainebleau stretched on the ground as if he was dead. When he approached him the man asked if he had any snuff, and on his replying in the negative he fell back on the ground in his original state. Merat soon found a wood cutter who had some snuff, whom he brought to the man and gave him several pinches, when he arose immediately and went on his way. He stated afterwards that he started out in the morning thinking that he had his snuff box, but finding he had left it, proceeded on his journey as far as possible, when such was his longing for it he could not proceed farther.

The habit of chewing tobacco is confined almost exclusively to this country. In Europe, among the cultivated and refined, in this manner it is never used; only the coarse and vulgar and those engaged in the lowest avocations chew. It cannot be said to be more injurious than other modes of using tobacco when used in moderation; indeed, some persons claim that it materially assists digestion when taken after a meal and brings them comfort and relief. There are, however, certain morbid states found in individuals who chew to excess which cannot be ascribed to any other cause. When tobacco is taken into the mouth it excites some degree of irritation and causes a copious flow of saliva. Persons who chew to excess and spit a great deal waste during the day an enormous quantity of this fluid, which aids so materially and plays such an important part in the digestion of our food. It is estimated that a pound or so of this animal fluid is required to bring the food consumed in an ordinary meal into such a state of comminution and fluidity as to make it easy to swallow. This is the least office it performs in the act of digestion. Some articles it partially digests and effects such changes in others as to render them more susceptible to the action of the stomach. It is probable, too, in addition to the great waste of the saliva, important changes occur in its composition, such as a highly acid condition, which seriously impairs its power as a digestive agent.

It is a physiological law that acids check the activity of organs whose secretions are acid and stimulate those which are alkaline. Normal saliva is alkaline and when it reaches the stomach stimulates the secretion of the gastric juice, which has an acid reaction, and in this way

still further aids and promotes digestion. Of course, the loss and daily drain from the body of a fluid which has such an important function to perform in the economy must seriously affect nutrition and eventually lead to debility and exhaustion of the nervous system. Vertigo, dizziness, noises in the ears, dimness of vision, sudden shocks at the pit of the stomach, sighing respiration and palpitation of the heart come one after another to plague the man who chews to excess. The stomach participates in the nervous depression and with difficulty performs its office, and then ensues the distressing dyspeptic symptoms of cardialgia, heartburn, acid and watery eructations and constipation. The victim to excessive chewing becomes pale, wan and sallow. His mental operations are painful and difficult; he is undecided, vaccillating and irresolute, and fears of impending evil render him wretched and unhappy. The debility and exhaustion of the nervous system is sometimes evinced by that distressing affection, spermatorrhœa, which proves intractable to treatment until the habit is abandoned. According to my observation, the habit of chewing is of slow and gradual growth and requires time and repeated trials before the taste is acquired and the system is sufficiently inured to the presence of the poison to tolerate its daily use. This taste for and toleration of tobacco is easily acquired by the lower animals. I knew very well a small farmer who was addicted to excessive chewing who was in the habit whenever he took tobacco of giving his horse the same quantity he took himself. The animal would take it with avidity and chew it for some time with evident relish and then swallow it. The horse was under my observation for several years and seemed to thrive under the treatment.

Smoking is the least repulsive and generally esteemed the preferable mode of using tobacco by the vast majority of those who are addicted to its use. Like chewing, it produces more or less irritation of the mucus lining of the mouth and causes an increased flow of saliva. This irritation may proceed as far as a true inflammation of the buccal cavity. Indeed, many observers attribute many kinds of diffuse inflammation of the tongue and lining membrane of the mouth to the habit of excessive smoking. To it has been assigned the origin of the various ulcers which at times trouble smokers, and even one form of cancer which frequently attacks these organs has been thought to have its starting point in the irritation which it produces. A relaxed condition of the palate and elongation of the uvula is of frequent occurrence among smokers and is one cause of that constant disposition evinced by many of them of continually clearing the throat. The small blood vessels and capillaries of the pharynx, from continual irritation, become enlarged and tortuous and give it a red and inflamed appearance. I have seen one instance of this in such a marked degree that the capillaries and blood vessels were

swollen and unduly prominent and gave rise to a passive hemorrhage which was very troublesome to control. This condition of the throat has a very decided effect on the voice, and the most casual observer must have noticed the harsh, rough and deep-toned alteration in the voice in those individuals who smoke a great deal. In consequence of this, public speakers and professional singers have to avoid undue indulgence in smoking or subject themselves to serious inconvenience. Smoking enfeebles digestion, and those who carry it to excess sooner or later experience some one of the manifold manifestations of dyspepsia. Independent of the debility induced in the stomach, in consequence of the depressing effect of this powerful sedative on the system at large, it is subjected to the direct local action of the poison through the saliva, which still further weakens and impairs its functions. A furred and foul tongue, loss of appetite and disgust for food, a vague and undefined uneasiness, lasting several hours after meals, heartburn, flatulency and constipation, are some of the more prominent symptoms due to excessive indulgence in smoking.

None of the effects of tobacco on the system excite so much alarm as the depressing influence it exerts over the heart and circulation. The action of the heart is slow and labored, but in such an irritable state that apparently without adequate cause it becomes unduly excited and palpitates so tumultuously as to create the impression in the sufferer that impending dissolution is at hand. It has occurred to me several times, in examining for heart trouble persons who indulged in excessive smoking, to find nothing abnormal in the organ except an extreme degree of irritability. These persons, while quiet and free from excitement, feel that nothing is wrong with them, but when the mind is taxed to any extent or the body subjected to the slightest exertion they are alarmed at the irregular and tumultuous action of their hearts and are really incapacitated for prolonged or sustained effort of any kind. The only relief for this condition is rest and the abandonment of tobacco. If the habit is persisted in after these warnings it may ultimately lead to dilatation, hyperthropy and enlargement of the heart, which will prove irremediable. Hardly any one who smokes but must retain a vivid recollection of the sickening ordeal passed through before the habit was fully acquired. The novice, in his first attempt at the pipe or cigar, inhales more or less smoke and swallows some saliva charged with its products, and the poison, finding access to the system through both of these channels, makes a more rapid and powerful impression than takes place in any other form of using tobacco. The influence on the nervous system is at once experienced in the lightness of head, confusion of ideas, dimness of vision, nausea and extreme pallor of the countenance. If the impression is more profound the nausea becomes distressing, retching

and vomiting supervene, the heart beats feebly, respiration is oppressed and labored, the body is cold and bedewed with perspiration, and utter prostration and collapse ensue, with sometimes loss of consciousness. By mere force of habit the confirmed smoker is enabled to guard in a measure against these accidents, and it is seldom that he inhales smoke or swallows his saliva while enjoying his cigar or pipe. Indeed, I have never met a person who could practice full inhalations of tobacco smoke with impunity, while I have seen the lives of infants placed in extreme jeopardy by the smoke of a pipe being blown into mouth and nostrils.

While the habitual smoker who indulges to excess may seldom experience any pronounced unpleasant effects of tobacco, he must not conclude that it is not affecting him injuriously; the action of the poison is only slow and gradual and will soon manifest itself in some of the disorders mentioned above. An inflamed and watery state of the eyes is frequently seen in persons who smoke and sometimes gives them considerable annoyance. There is, however, a more serious affection of them induced by the poisonous action of tobacco on the nervous system, producing atrophy of the optic nerve and its expansion, the retina. Vision is more or less impaired and sometimes wholly lost from this cause. Smoking does not appear to affect the brain and nerves of special sense as much as it does the spinal system, which is more concerned with motion. The effect on the latter gives rise to the general debility, unsteadiness of gait and tremulousness of the muscles which characterize those who indulge in immoderate smoking. As might be inferred from its depressing influence on the spine and its nerves, there is diminution of the venereal passion and loss of sexual desire, and it is not an improbable source of impotency. In fact, nutrition of the body generally is impaired, as is evidenced by the emaciation, pallid face, harsh skin, thinning of the hair and premature baldness. The Indians of the West, as far as my observation goes, seldom suffer any injurious effects from smoking. This is due in a measure to their inherent strength of constitution inseparable from their peculiar mode of life, but also to a great extent to the habit of never smoking the pure tobacco. They mix it in varying proportions, usually from one-fourth to one-half, with the inner bark of the willow, with the leaves of a dwarf species of laurel of an aromatic flavor and the leaves of the sumac. Tobacco prepared with the leaves of the latter has an agreeable and pleasant flavor when smoked and is largely deprived of its injurious properties, as the percentage of nicotine is reduced almost as low as it is in Havana tobacco. In consequence of the small amount of nicotine in Havana tobacco, the cigar made of it is less injurious when smoked than that manufactured from any other variety known.

The cigar may be indulged in a way to deprive it of much of its deleterious properties. Tobacco smoke contains carbonic oxide, sulphuretted, hydrogen and prussic acid, besides the chief poison, nicotine. When a cigar is lighted and smoked these products are absorbed by the leaves from the smoke as it passes through them. The accumulation of these poisons goes on as long as the cigar burns, until the stump becomes at last saturated with them. If the cigar was thrown away when half burned out, smoking could be indulged much longer without feeling any unpleasant effects from it. The pipe is not as harmless as the cigar, for the reason the smoke is not subjected to this filtering process through the leaves to the same extent. The variety of tobacco usually smoked in pipes is much stronger and more poisonous, containing, as before stated, from three to four times as much nicotine.

No form of using tobacco is so repugnant to every feeling of delicacy and refinement as the disgusting habit of dipping snuff, which is practiced by females belonging to the lower class of white people in the South and West. The favorite preparation of tobacco used for this purpose is Scotch snuff. These women use brushes made of small twigs, with which they rub their teeth or chew after being dipped into snuff. The mouth, teeth and lips are deeply stained with the tobacco, and, as they seldom relieve themselves of the excessive flow of saliva by spitting, a considerable quantity of the snuff reaches the stomach. They jealously conceal the practice from strangers and persons whom they suppose are not addicted to the habit. It is considered almost a breach of hospitality not to provide snuff and twigs for brushes to their friends and associates when visiting their houses. The althea, on account of the facility with which its bark strips, its agreeable flavor, and the fine, white and tough fibres of the wood, is prized very much as a material for brushes. I have known this ornamental shrub to be cultivated by some families solely with a view to this use.

Persons who take snuff in this manner for any length of time have a striking and characteristic appearance. Usually they are very thin and emaciated and the subject of marked anæmia. The feature which strikes us as the most peculiar and interesting is the discoloration of the skin. The complexion of the fairest blonde will lose its transparency and whiteness and assume a yellow tint, which in many instances deepens and becomes positively dark and swarthy. I believe, too, it has a similar effect on the color of the hair, giving it a darker hue, and at the same time rendering it dry and harsh and less glossy. These women are martyrs to dyspepsia and the neuralgias, always complaining of loss of appetite, lumps in their throats and shifting pains in every part of the body. They are great coffee drinkers, and when they have the means to keep a supply on hand usually drink freely of it through the day.

Coffee is a very good antidote for the depressing effects of tobacco, and I have no doubt these people drink it for the relief it affords them for the debility and sense of sinking from which they so often suffer. All of the baneful effects of excessive chewing are found in exaggerated degree in individuals who take tobacco in this way. Their children, more especially the girls, acquire the habit at an early age, usually before they enter their teens. The frail body, pallid face and pinched features contrast painfully with the plumpness and ruddy hue and glow of healthy children. The pallor of some of these children is distressing to behold; the skin is almost of marble whiteness, and there is an absence of color in the lips, and even in the tongue. The abdomen is somewhat tumid and there is some enlargement of the spleen and liver. They are listless and quiet and sedate beyond their years; they seldom engage in play, but are content to look on from indisposition to take part and from sheer breathlessness. Finally, a sub-febrile state ensues, attended by more or less diarrhœa, which medicine is powerless to control. While the use of tobacco in this form may not be the sole cause of this profound anæmia, yet it is the prime factor in producing it, aided, perhaps, by an inherited weakness of constitution and poor and unsuitable food. The importance of preventing children from acquiring the habit of using tobacco *in any form* cannot be too strongly impressed on parents.

The taste and odor of tobacco is nauseous and sickening to every one at first and requires many trials some little time before it can be indulged with impunity. This is the time to impress upon them that it is an idle and expensive habit and full of danger to their health and constitution. Dr. B. W. Richardson, one of England's greatest physicians, has deemed the use of tobacco an evil of such magnitude and so fraught with dire consequences to the race that he has thought it not an unworthy object to devote his time and talents to the organization of societies through the kingdom for the prevention of juvenile smoking.

The Duties of the State to the Inebriate.

By C. R. Tabor.

"You ask me, Rudolphus, why in the cool eventide I am so often found under this wide-spreading shade, rapt, as it were, in serious thought! Oh! the greatest pleasures of old age should be those of memory—those which spring from a restrospective view of well-spent life; for as we descend the shady slope of the hill, we love to turn and behold the foliage still beautiful behind us, to find the road more peaceful and calm, and ever and anon to catch the faultless rhythm of that mysterious river running through the realm of years. And the graves,—what a place for meditation! There is the conclusion of life's drama—was it a farce ended by the falling of the curtain, or is it a sweet sleep "after life's fitful fever"? Ah! Rudolphus, there is a life between man and his Maker of which the world can know nothing. How often do we misjudge the living and the dead?"

"My dear Uncle, after your long illness I would suppose that you would encourage a brighter and more cheerful train of thought; that you would rather not contemplate that saddest of events of which this hour and place are so emphatically suggestive. May I ask you to accompany me to the town?"

"No, no, Rudolphus: I am not gloomy. What seems so to you is anything else but gloom. You forget the great disparity of years between us. You open the threshold of life, young, gay, vigorous, with the rainbow of "eternal hope" springing from your breast, and, arching above, pours its wealth of golden dreams in the untried future. I, on the contrary, am frosted by time, and from the other end of that rainbow whose colors and beauty have long since wasted and faded I stand and gaze in vain for the loves and ambition of youth, for those very gilded dreams which to-day are yours, but which to-morrow you will find dead, crumbled leaves. Yet the disappointment which comes with this knowledge arouses us to the delightful consciousness of the earnestness and reality of life, and, believe me, the golden thread through it all is to meet it and fight it manfully."

"With humility I confess that I love to turn my face heavenward, and to feel upon my gray locks and snowy beard the gentle dew of night falling upon them like a benediction from above. But give me your arm, Rudolphus, and let us walk; I have much to say to you—you who have come at last from the uproar of the great cities to help your aged

uncle in his professional duties to this dear community, two generations of whose ancestors I have stood beside, day after day, through disease and distress, until one after another I have followed them to their last resting place; and soon will *you* supplant me, the old family Doctor, for it cannot be long before I too shall rest just over there with these old gouty toes of mine turned to the daisies."

"Oh! Uncle, forbear."

"I tell you, young man, ours is the noblest and grandest of professions; and, remember, keep yourself spotless as a Bayard. Well, now, let me tell you why I wanted to see you. For fifty years, in my imperfect way, I have tried to be the friend of the poor inebriate, and it would be so comforting to know that you will take up their cause where I shall soon have to leave it. They need all the aid, counsel and protection you can give—not in a professional way, Rudolphus, but in all sympathy and tenderness, as one eager to ameliorate the distresses of his fallen brother.'

"Why, good heavens, Uncle, I help the inebriate? How novel a role for a new-fledged disciple of Æsculapius! I thought this was a matter of taste which the law properly allowed each man to regulate for himself, and that it is only when a fellow disturbs the public and renders himself a nuisance to society that the law very properly handles him. I don't know that I can get up an interest in that unfortunate creature the *inebriate.* For your sake I shall be most happy to attempt anything, but as a reformer of a drunkard I shall certainly prove a contemptible failure. Why I myself drink; how Pharisaical, then, to insist that others should not! Furthermore, the inebriate is a character of antiquity, and despite every effort in his behalf he still holds his own in the great drama of the day, apparently as a necessity evolved from the very conditions of life itself; and I fancy that this is so generally recognized that even the laws relative to him are framed in charity and to ignore his hideous vices."

"The law ignore, indeed! Say, rather, that the law indicates the road to inebriety, protects the inebriate in his fatal walk, and provides against the probability of his being reclaimed."

"How shocking an idea you give me of my country's laws!"

"Listen, Rudolphus. Hear me out, and see if my long and earnest reflections have brought me to naught. What seems the attitude of the law to the inebriate? Now, follow me. Does it strike you that a law framed to protect evil is simply a way of framing mischief by law—a law which admits that a thing is wrong, yet tolerates it—which attempts to regulate and to derive from it a revenue—which makes that which is morally wrong legal? I say, does it not strike you that such a law is at variance with the true interest of society? Now, the attitude of the State to the inebriate is simply the attitude of the State to inebriety—the one being effect, the other the cause; and while the law does, in

many respects, ignore the inebriate, it takes special care to perpetuate and protect the sources of inebriety."

"Would you have the law to interfere in this matter? Why, my dear sir, the non-interference of the law with an evil is construed into its sanction, and men appreciating the virtue of being law-abiding are irresistibly drawn by the negative yet additional force of the law to withhold censure from whatever the law itself does not specially prohibit. Men are so apt to regard what is lawful as right."

"But, my dear Uncle, strange indeed is it if one's idea of right is to be so completely fashioned by the law. Where is the sphere of those higher considerations which should influence society in creating that powerful lever, public opinion?"

"Why, sir, what is public opinion but the sentiment of the majority, and what is law but the expression of that sentiment as to how society can be best preserved and protected? You have heard, *Vox populi, vox Dei*, Rudolphus; it is the greatest fallacy, from the crucifixion of our Saviour to the present day. Yet it has always represented, in varying shades, what has constituted this thing, public opinion. It is this very public opinion of which you speak which sets its face against the unfortunate inebriate and keeps him a damning spot upon society. I spoke of the inebriate just now as a physical nuisance. How far worse is he as a moral nuisance, for as such he affects profoundly the peace, the welfare, the domestic life and virtue of the community; and should not these be more jealously guarded than the mere physical tastes and comforts of society? A man appears on the street intoxicated; he offends the eyes and ears of those who chance to see and hear him; but soon he is taken away by the officer of the law, and there is an end of the evil, so far as the outward world is concerned; but when that same man returns to his home—ah! then begins the work of degradation, the terrible career of that moral nuisance, the inebriate. See, here again, Rudolphus, the law goes further, and sustains and countenances the inebriate in his unfortunate career by regulating it."

"May I ask whether the traffic in ardent spirits has been in the main enacted upon the principle you allude to?"

"Thank heavens, Rudolphus, I am no lawyer, but a little general reading would seem to justify me in saying yes, most assuredly. The traffic has been admitted to be so full of peril that it is necessary to check and regulate it, and upon this and the additional admission that a certain class only can engage in it the laws have been made. Hence, we have the license law guarding the traffic, not solely with the view of raising a revenue, as in the case of wares of different kinds, but on the ground that the traffic in liquor is dangerous and should be entrusted to those only in whom the community can confide, with the additional idea that

the State had a right to raise a revenue from it in return for the protection given."

"Why, Uncle, I thought that in our State any and all persons might engage in this traffic, just as in farming, carpentering or any other trade?"

"No, sir. Let me assure you that the law regards the traffic in liquor as an evil to be regulated, and the object seems not to repress inebriety, but first to keep it in certain bounds, and then to provide for the evils that grow out of it by taxing the virtuous and industrious to bear the expenses of the crime and pauperism which it was anticipated would result despite all the precautions of the State."

"Indeed, the attitude of the law in this matter seems monstrous."

"Yes, Rudolphus, you are beginning to comprehend my position in ths important matter: How the State expects the poor inebriate to obey her laws, to contribute to her support and to defend her, yet she in return panders to his fatal appetite and supplies him abundantly with the means and opportunity of effecting his own ruin. Oh, think, my dear Rudolphus, how many generous, gifted and noble fellows, who but for the open encouragement of the law would perhaps be an honor to the land, yet who, alas! sink day by day deeper beneath the bitter wave, lost—lost to life, perhaps irretrievably lost in eternity. Know, then, the sad coloring which this dreadful consciousness gives to my reflections in this sacred place; see here and there, and again over yonder, graves which have been filled prematurely. I knew every one, his life, his struggles, his unavailing prayers and tears, his penitence, his yearning to do right, and have seen them all hurled by the demon drink into these very graves. Yet great as is the evil to the individual, it sinks into mere nothing in comparison with the greater evil sustained by society at large. The inebriate forces his wife to become an outcast, brutalizes his children, then turns them upon society the aggregated expression of the untold wretchedness of both parents, and that too with the inborn tendency to inebriety. Does it not seem, Rudolphus, that society reeks with the foul scum streaming from the loins of this unfortunate class of beings? Is it right for the State to forbear from interference with any evil, however time-honored and however apparently impossible seems its suppression? Have you not learned that the great fundamental idea of society is the right to protect itself against everything that threatens its peace and happiness? You certainly won't question this, for without the concession of this principle as inherent in society, why what would become of the individual, of society, of government? Man has a right to protect himself and family by all the wisdom and strength he may possess, provided it be properly employed, by all the assistance he may get from the law, and by all appeal to the author of peace and justice. Society

enjoys the exercise of this same principle, but in a far wider sense. Upon this assumption laws are enacted and penalties are fixed for their violation. Courts are established for the infliction of fine and imprisonment, the execution of such persons as are dangerous to society, and for various other purposes. In each and every one of these instances the fundamental idea is that society does possess an inherent right of self-protection, and in its application it extends to all that jeopardizes the individual or his reputation, against whatever might injure, endanger or destroy society, against whatever is antagonistic to good morals and order, and against all vices which by example even are injurious."

"I frankly confess that I have never reflected upon this subject, perhaps because the consciousness of my own faults and infirmities makes me chary in ventilating the shortcomings of others. Yet from what you have said, and from my individual standpoint,—that of a worldly man, sighing often for the flesh pots of Egypt,—it would appear that the State in its relations to the inebriate is grossly delinquent. That something should be done cannot be denied; yet is it possible to forever suppress this hideous outgrowth of society? Will the inebriate ever be a creature of the past, known only to tradition? Is not each generation freighted with the virtues and vices of all preceding generations, and does not the foul stream run madly on? Can law or time ever purify it?"

"Ah, that is the question, and its solution is a gigantic one in the future. For myself I frankly confess the fear that, like other evils, it cannot end save with the end of the human race. But this is no reason why the State should not make an effort to prevent, and to protect itself against, this evil, inebriety. We know nothing of absolute right or truth, and all that the State can do is to do her best in the instance of the inebriate, just as she does in the case of the murderer or the burglar.

"But why invoke the aid of the State at all? Why not leave this as we do other points of morals, as we do religion,—to the influence of argument and moral suasion? Are appeals to the consciences and reason and self-interest of men unavailing in this matter?"

"Not altogether, Rudolphus; for with a large class of persons this might accomplish some good, but to the largest class it were worse than useless. Besides this, the State has not chosen to leave the inebriate to the influences you suggest—to argument and moral suasion; but it has thought necessary to legislate in behalf of his infirmity, as if it considered it an evil of so great magnitude that its correction could not be left to religion and consciences of men. Inebriety is certainly as great an evil as burglary, arson or horse stealing, and surely you would not advise the State to leave such evils to the consciences of men, to argument or moral suasion?"

"Why certainly not; but would you advocate capital punishment in cases of inebriety?"

"Oh no, my son. What I want is this: Recognizing the inebriate to be as great a nuisance to society as the burglar, the State should not hesitate to treat the offender with a severity commensurate with his crime—that is, legislate in regard to the inebriate in the same spirit that it does against any other evil. But you can readily understand that a system of legislation which proceeds on the principle of protecting the evil cannot otherwise than fail utterly. The duty of the State is to view the inebriate from every standpoint and to settle definitely whether it can benefit him; if ever so little, it should be her duty and pride."

"Well, Uncle, suppose the State should have her inebriate asylum, where the poor forlorn fellows could be kept and treated and provided for until such time when, strength of will having been restored, they might again be returned to society?"

"Inebriate asylums will do for such inebriates as are absolute wrecks, as temporarily supplemental to a larger and more successful work on the part of the State; but with the present system of the laws affecting inebriety, these institutions, in the very nature of things, cannot accomplish much. Observation has long taught me, Rudolphus, that the larger proportion of inebriety exists as an inheritance. Like insanity, this fearful demon may grant a reprieve to one generation, simply to burst forth with all its horrors upon another. With these the appetite for drink is ungovernable, and seems almost as great a physiological necessity as is the craving for bread and meat. Who has not seen just such cases? Admitting, then, for the sake of argument, even more than is claimed by the most enthusiastic advocates of these institutions, even then their establishment would be tantamount to the State's burthening the community with the support of a certain class of unfortunates to whose ruin she has been largely accessory. Is there not a principle in human nature which causes men to brave danger and distress cheerfully provided relief is certain to follow? Think you that the soldier of to-day would rush into the jaws of death if he felt certain that when wounded he would be left on the field to die, the prey of jackals and vultures? No, sir. It is this comforting belief in ultimate aid which sustains him. If, then, this principle does assert itself even in the path of duty, how much stronger would it operate in the case of the inebriate, who outside of the path of duty feels assured that when he has effected his ruin the State will take and shelter him under her wing, and will feed, clothe and give him all necessary medical aid? Why look at the matter as it stands, Rudolphus, between the State and the inebriate. The State says to the inebriate, I license, I encourage and I sanction you in your inebriety, but you must pay me in protecting you in it. Now when you can no longer take care of yourself, I will provide you with comfortable quarters, with lights, fuel, clothing and medicine, until you have sufficiently recovered to be a useful

citizen. Then I will set you at liberty, to be again tempted to a renewal of your fatal habit, for I authorize the means of its indulgence and have it abundantly furnished everywhere within my borders. Gracious heavens, Rudolphus, doesn't an institution of this character appear to offer premiums for self ruin? Certainly such institutions are not the remedy which an enlightened State should propose for the suppression of the greatest evil of modern times."

"It is evident, my dear Uncle, that you are against expedients of all kinds and doubtless would have the State apply the knife to inebriety and lop it off a '*dejecta membra*,' or perhaps you would compromise with a huge temperance reform."

"This matter is too serious for levity, Rudolphus, and I tell you that the man of honor perpetrates a crime against himself and all who are interested in him when he compromises with his conscience in a matter of wrong. In a larger sense the State is also criminal when she refuses to repress wrong but prefers to compromise with crime. You see the duty of the State is not to aid in the wreck and ruin of one of her citizens, but, so far as possible, she should shield him against the possibility even of such a contingency. If he is already an inebriate, place it at once and forever beyond possibility that he shall so continue. The duties and obligations between the State and a citizen should be reciprocal and in good faith carried out, and a State that lends a careless eye to an evil of any kind, however trivial, is false to her trust and plays the suicide of her own happiness and peace."

"What then, would you propose in behalf of the inebriate?"

"Briefly, I would have the evil of inebriety removed, just as we would burglary, arson or any other evil against the State. I would have the State looking down from the lofty pinnacle of the enlightenment and progress of the day with a full appreciation of inebriety, the greatest source of crime, and I would have her ask herself the question whether it is not her imperative duty to legislate against it? This point settled, and I would have her, Brutus like, fearlessly apply the rigor of the law."

"Why, Uncle, how inconvenient a doctrine you advocate! To prevent inebriety would be equivalent to abolishing the use of alcohol. Think how cruel a sacrifice you require society to make, how stale the dinner parties, the suppers the balls, and how ridiculous a man would appear who upon cold water would try to work himself into that *bonhomie* so charming between men! Heavens! though always moderate in my potations, I should feel that a great charm in life had been destroyed."

"Certainly, my son; I admit it all. But that is not the question. It is neither one of custom nor of taste, but simply whether, by pandering to the tastes of the masses, the State inflicts an evil upon society either di-

"Well, I confess that I had thought differently—that prohibition had been a signal failure."

"No doubt, Rudolphus, you heard so, for it is to the interest of those persons, and they are legion, interested either directly or indirectly in the traffic of liquor to make it appear to the world that strong drink is a necessity of the human race and that it is utterly useless for law to attempt its suppression. Besides you will find the patronage of strong drink so general, from the highest official to the lowest, that the enforcement of the law against inebriety is ofttimes impossible. Men will recognize the great evil of inebriety, and assert that it should not exist, but when it comes to the power of the law being used against it, either their idea of duty is too shadowy and convenient or else they are lamentably deficient in moral courage. I tell you, Rudolphus, legislation should be directed against the manufacturers and dealers especially as the great demoralizers of society. So long as a man is weak and prone to temptation it is useless to preach total abstinence without at the same time enforcing it by law. Suppose a baker should sell diseased bread to his customers, what would the law do? It is necessary only that a dozen cases of hydrophobia should occur in the whole country to throw millions into painful excitement, and in the eye of each innocent cur some one detects the lurking evil and wants him killed, yet daily thousands of human beings are maddened by strong drink and society and the law, taking it as a matter of course, withhold all succor. 'Consistency, thou art a jewel.'"

"My dear Uncle, you are fatiguing yourself."

"Yes, my son, I do feel the immense importance of the 'duty of the State to the inebriate.' And look at me, Rudolphus. Here in this sacred place, in the presence of the very victims of inebriety sleeping around us, promise me that you too will enlist in this noble cause. Won't you stand in your old uncle's shoes? won't you set your face and energy and manhood against the wrong done the poor inebriate by the law's willful and persistent neglect of him? Believe me, he is a mere feather upon the roaring torrent of his vice, and with outstretched arms he cries for help which it seems will not come. Then, Rudolphus, forget not the poor little children, and then the hollow-eyed, pale-cheeked women, from whom even 'God's providence seemeth estranged.' Ah! merciful God—but, but—lead to the gate, Rudolphus. I feel choked up."

And age, leaning on youth, moved on, and the hand of youth loudly, resolutely swung open the gate; but the hand of age tremblingly, noiselessly and reverentially closed it. And the living passed out to the living, and the dead were left with the dead.

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